

The Role of Indigenous Knowledge Systems in Cultural Heritage Preservation under NEP 2020

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Abstract

In Introduction, this study explores the roles of India's National Education Policy (NEP) 2020 in cultural heritage preservation through indigenous knowledge systems. These include traditional arts, crafts, ecological practices, and languages. It also includes perspectives through gender and regional lenses on this integration. In Methodology, Confirming the study, a survey was held with 2,300 participants, with an equal split of male, female and non-binary, from rural and urban settings. The survey covered areas of knowledge, implementation, impact, and challenges of indigenous knowledge in education. SPSS was put to use for data analysis using descriptive (mean, standard deviation) and inferential (t-tests, ANOVA) statistics. A significance level of $\alpha=0.05$ was applied. In Results, Respondents agreed that indigenous knowledge should have a role in education (average score: 4.2/5). Women (4.4) provided more support than men (4.0), and respondents from rural areas showed greater awareness and more support than those from urban areas. Participants identified teachers and resources as the major barriers 77 (65%). There was a high degree of support (average score: 4.3) for the implementation of specialist teacher training programs to address these challenges. In Conclusion, these results reflect strong support for the inclusion of indigenous knowledge systems in education as called for in NEP 2020. But major hurdles remain, including the lack of trained teachers and scarce resources. Correcting the problems will require focused investments, training teachers and developing curricula. Educational institutions, local communities, and holders of indigenous knowledge will need to work together to ensure that cultural preservation is indeed — not just word — indeed something much.

Keywords: Indigenous knowledge systems, cultural heritage preservation, national education policy 2020, NEP 2020, gender inclusion, educational integration, SPSS analysis, teacher training, traditional practices, cultural continuity, survey study, rural-urban differences, gender differences in education, curriculum development, community-based education.

INTRODUCTION

The richness of Indian culture continues to be a marvel, a harmonious coalescence of traditions, languages, art, and ecological practices; much of which is based on indigenous knowledge systems (IKS). These knowledge systems range from agricultural techniques and environmental practices to local crafts, languages, and community-based governance and are often handed down through generations. And more than knowledge systems, they are living traditions shaping the everyday lives of millions in the country [1].

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The new National Education Policy (NEP) 2020 takes a bold step to introduce a Narrative on Introduction of indigenous knowledge in India's

educational system, whilst the need of acknowledging the importance of these invaluable traditions as mentioned It advocates a shift in education from rote learning to a more integrated holistic approach, especially one that recognizes the importance of indigenous and community systems of knowledge along with scientific knowledge. By integrating local wisdom into the formal education system, NEP 2020 seeks to develop an inclusive and culturally sensitive curriculum that contributes to the preservation and transmission of these traditions for future generations 2.

But even as the NEP 2020 lays out an optimistic vision for the future, its success is not a foregone conclusion. Meagre resources, inadequate training of teachers, and varying degrees of implementation of the policy across different regions of the country remain impediments to its successful realization [4]. Also, including indigenous knowledge in education systems is not merely an endeavor of adding content to textbooks, but rather, an entire redefining of how these education systems interact with diverse practices of culture and what that would look like in the ways in which they are taught in modern classrooms.

This paper examines the views of 2,300 respondents from various regions, genders, and levels of education on the importance of indigenous knowledge in the renaissance of cultural heritage under NEP 2020 [9]. This study aims to identify challenges and opportunities for including native wisdom on the national academic landscape, exploring variables such as sex, region or perceived importance of the policy [10]. This study will help to highlight how NEP 2020 aimed to preserve the rich culture while catering to the diverse population of India 6.

METHODS

Survey Design and Participants

To explore the public perceptions around the integration of indigenous knowledge in education under NEP 2020, we carried out a large-scale survey of 2,300 respondents from varied backgrounds. To ensure how much diversity the findings reflect, the survey included both genders, multiple regions and educational levels.

Our sample was stratified by gender to ensure equal representation of male, female, and other gender respondents. We also wanted to make sure our sample included urban as well as rural participants, as experience and awareness of Indigenous knowledge can be different between the two. These included students, teachers, educational administrators, and policymakers, each offering valuable perspectives on the practical challenges and opportunities of integrating indigenous knowledge into education.

Survey Structure

The actual survey was a 25-question structured questionnaire. The questions were organized into four primary areas:

Knowledge and importance: This sub-section seeks to evaluate the respondents' knowledge of indigenous knowledge and their perceptions of its role in the preservation of the cultural heritage.

Indigenous Knowledge Implementation: Within this we further examined the degree that indigenous ways of knowing are incorporated in existing education systems and how effective this may or may not be.

Perceived Impact: This section sought to understand how respondents feel the incorporation of indigenous knowledge into education will affect cultural preservation, community health, and educational achievement.

Population, Problem, Intervention, and Comparison: We studied the indigenous knowledge implementation obstacles, resource shortages, educator shortage and societal attitudes toward traditional learning.

Responses were measured using a five-point Likert scale (e.g. 1=Strongly Disagree, 5=Strongly Agree) This scale enabled us to gauge the extent of agreement or disagreement with particular statements pertaining to each category.

Data Collection and Analysis

We chose a mixed-method approach, administering the survey in person as well as online to reach a broad array of respondents who may have had access to online platforms, or lacked access to smartphones or the internet altogether. There was sufficient time for respondents to consider and respond to each question mindfully. This mixed-method approach enabled us to account for both broad quantitative trends and more nuanced qualitative insights.

We analyzed the responses using the Statistical Package for the Social Sciences (SPSS), version 26, once data was collected from the completed questionnaires. First, descriptive scores (mean and standard deviation) on all the responses were conducted to summarize the overall tendencies in the data collected. The mean scores, for example, showed the general level of agreement, while the standard deviation showed the variability in responses.

We also employed inferential statistics in the measurement of the differences based on the gender, region and other demographic factors using t-tests and ANOVA. To do this, we conducted a series of statistical tests that compared whether different groups (e.g. males compared with females or rural compared with urban respondents) were statistically significantly more likely to have different perceptions regarding the integration of indigenous knowledge into second-stage education (e.g. Appendix D).

Such analyses are important as they bring to light patterns and trends that are significant to further help us decipher the emerging trends in how different demographics view the role of indigenous knowledge in cultural heritage preservation and education. We have also mapped the challenges identified by the participants, which would form the basis of the solutions that may be implemented towards NEP 2020.

Ethical Considerations

The integrity of our research was thoroughly maintained in accordance with ethical standards. All respondents were assured of their anonymity and participation was entirely voluntary. Participants gave prior consent for data collection, being informed about the purpose of the study and how the data would be used. We further secured all responses treated with professionalism and anonymity.

RESULTS

Descriptive Statistics

On the other hand, results of this survey revealed the vision for the importance of indigenous knowledge systems integration into education for the preservation of cultural heritage. The mean response across the questions was 4.2 (SD = 0.8), suggesting strong agreement.

Table 1. Descriptive statistics for key responses on indigenous knowledge integration.

Question	Mean	Standard deviation
Importance of integrating indigenous knowledge in education	4.3	0.7
Support for indigenous knowledge for cultural continuity	4.4	0.6
Awareness of indigenous knowledge in rural vs. urban areas	4.1	0.9
Perceived challenges in implementing indigenous knowledge	3.8	1.0
Support for teacher training programs in indigenous knowledge	4.3	0.7

In Table 1. Insightful data from the survey shows how the integration process with indigenous knowledge systems in the education matrix across India, as per the NEP 2020 directives, is perceived by the common man. According to the strong general degree of agreement, the importance of keeping indigenous knowledge is emphasized by the results.

First and foremost, respondents highly agreed that the integration of indigenous knowledge in learning was an important value opportunity, as their mean score rated 4.3 with a standard deviation of 0.7. What this means, is that there is a general consensus amongst participants that indigenous medicine is not merely a historical concept, rather; it is a form of knowledge worthy of being incorporated within contemporary educational practices. The consensus on this belief suggests that it is held across demography.

Consistent with this, the mean support rate for indigenous knowledge as cultural continuity should be endorsed, was the highest (mean score = 4.4, standard deviation = 0.6) among all items measured. This indicates an extremely strong consensus: according to these professionals, across gender, region, and professional background, these findings point to the fact that indigenous knowledge is a key asset in keeping cultural traditions persistent. This also speaks of a deeper emotional bond, particularly in a country like India where traditions are seamlessly integrated with both identity and community life.

A mean score of 4.3 (DB = 0.0) with 0.6 return in consciousness of indigenous know-how in rural zones, though supports the case for consideration of the requirements of learners in these settings. That indicates that while there is general awareness of these issues, some areas are more so than others—taking into account that rural communities with people who have this knowledge that remain common ground. Urban respondents, perhaps more disconnected from traditional lifestyles or indigenous knowledge, may not encounter or appreciate it as much. This gap highlights the demand for targeted knowledge campaigns, especially in urban and metropolitan educational systems.

Notably, the statement on perceived challenges of integrating indigenous knowledge in education recorded the lowest mean score (3.8) and the highest standard deviation (1.0). The diversity in responses indicates that while some remain hope-filled around integration, others may be more hesitant, potentially based on concerns around teacher readiness, curriculum planning, or institutional support. The slightly lower mean score also indicates awareness of systemic barriers that will need to be overcome for the vision of NEP 2020 to be fulfilled.

Finally, the mean score of 4.3 with a standard deviation of 0.7 indicates strong support for the idea of teacher training programs which enhance indigenous knowledge. This concludes that even when people appreciate indigenous knowledge, they realise that sufficient implementation requires more than a question of policy; it requires possessing the qualified educators who are in a position to translate these traditional modalities of knowledge into lessons of utility in the classroom.

In conclusion, the data suggests a population that places high value on indigenous knowledge and its role in preserving India's cultural heritage. But it continues to show areas that need concentrated efforts, including teacher training and gaps by region in awareness. On the whole, it feels hopeful but not naive: closer to a readiness to support a change — if with the right scaffolds erected.

Gender Differences

There were major gender-based differences. Women (mean = 4.4) expressed a greater agreement surrounding the importance of indigenous knowledge for the preservation of cultural practices than men (mean = 4.0), which may indicate a higher inclination toward traditional cultural practices among women. This difference was statistically significant ($p < 0.05$) for regions pertaining to cultural continuity 5.

Table 2. Gender differences in responses on indigenous knowledge

Question	Male Mean (SD)	Female Mean (SD)	p-value
Importance of indigenous knowledge	4.0 (0.8)	4.4 (0.6)	0.02
Support for cultural continuity through indigenous knowledge	4.1 (0.7)	4.5 (0.5)	0.03

The data in Table 2 indicates some significant gender-wise differences in perceptions towards the inclusion of an indigenous knowledge system under NEP 2020. These discrepancies are not merely abstract numbers—shedding light on how cultural legacy is experienced and coveted differently by gender code.

Concerning education and the importance of indigenous knowledge^{48,49}, male respondents rated a mean score of 4.0 (SD = 0.8) compared with female respondents at 4.4 (SD = 0.6), a significant difference. The p-value of 0.02 indicates that this difference is statistically significant. This would imply that, on the whole, women value the integration of indigenous knowledge into education more than men. ‘This suggests that women, whose role has historically been as custodians of tradition through the intergenerational transmission of language, rituals and local practices, may be under-represented at key cultural and structural positions,’ the researchers wrote.

For cultural continuity through indigenous knowledge, for example, while male respondents answered "strongly agree" with a mean of 4.1 (SD = 0.7), female respondents also reported agreement with a mean of 4.5 (SD = 0.5). The 0.03 p-value confirms that this difference is statistically significant as well. This supports a previous idea that suggests women sometimes feel more responsible to keep a culture alive and passed onto generations.

Although numerically modest, these gender differences have significant implications for how indigenous knowledge is conceptualized and enacted in educational contexts. Women may be more attuned to cultural continuity than men, in part because of how often they are called upon to provide care, participate in community life, and lead informal education. Their voices and perspectives are therefore important in shaping policies and curricula designed to support meaningful and respectful integration of indigenous knowledge.

The school-linked background and the implications of the gendered vision suggest that any new strategies or teacher training programs sought to be designed under the umbrella of NEP 2020 need to be sensitive to these perspectives. Opportunities should be given to support the involvement of women's leadership in community-based curriculum development, particularly in areas associated with cultural heritage in order to increase the authenticity and potential impact in regards to the integration of indigenous knowledge.

A rearguard argument when viewed purely technically but arguably a more critical one suggesting that it is not sufficient to be educationists but also to consciously address gender in any reform or re-imagination process so that we do not by default reinforce the gender status quo, when arguably we know that if women's voices are not woven within the narratives, the shape of cultural narratives within India, they will not only be left behind, their stories will literally not be that worth telling.

Regional Differences

Rural respondents (mean = 4.3) were also in significantly higher agreement and more aware of the importance of indigenous knowledge systems being integrated into more formal decision-making settings, again likely due to rural respondents being more often aligned and involved with traditional ways of doing things than urban dwellers (mean = 4.0). This difference was statistically significant ($p < 0.05$) [7].

Table 3. Regional differences in responses on indigenous knowledge.

Question	Rural Mean (SD)	Urban Mean (SD)	p-value
Support for inclusion of indigenous knowledge systems	4.3 (0.7)	4.0 (0.8)	0.04
Awareness of indigenous practices	4.2 (0.6)	4.0 (0.9)	0.05

As evident in Table 3, respondents from rural and urban regions have different views about the integration of indigenous knowledge systems into the education. These differences, while slight in terms of numbers, are statistically relevant and reflect the difference in exposure and popular involvement with traditional practices from place to place.

When asked whether indigenous knowledge systems should be included in education, the mean score from rural respondents was 4.3 (SD = 0.7) versus 4.0 (SD = 0.8) from urban respondents. This difference is statistically significant ($p=0.04$). Which means in fact ethnically/racially from those who lives in the edge of the city so they are more open with in-group cultures in formal education system. One likely explanation is that rural communities tend to have more direct, closer, and sustained interactions with traditional practices — agriculture, rituals, crafts, and oral storytelling — and thus develop a greater appreciation of their value and relevance.

Participants from rural areas scored higher (mean = 4.2, SD = 0.6) than those from urban areas (mean = 4.0, SD = 0.9) when it comes to awareness of indigenous practices with a p-value of 0.05. Though the difference is small, it's statistically significant. This result supports the notion that indigenous knowledge is more visible and accessible in rural contexts, where these practices are often integrated into daily life and community identity. By contrast, urban environments, often resulting from globalization and a rapid process of modernization, may hinder the close proximity and continuity with ways of knowing that are seamlessly bound to a certain territory.

However, these regional differences have important implications for the implementation of NEP 2020. It highlights the need for deep regional context in educational strategies—capitalizing on the awareness and support which is strong in rural areas and should be utilized to create community-based initiatives while urban schools will need targeted awareness and curriculum development programs to bridge the cultural gap.

Furthermore data indicate that rural communities could serve as knowledge partners in this process. Through partnerships with indigenous elders, artisans, and community leaders, schools can refer to indigenous knowledge in ways that are meaningful, respectful, and deep-rooted in lived experience.

In summary, although the majority of urban and rural population is in favour of indigenous knowledge, in rural areas the support is more profound and lively. Understanding and respecting this relationship to culture and education can guide us in making sure the NEP 2020 frame not only maintains cultural heritage, but invigorates it in both traditional and contemporary learning environments.

DISCUSSION

Our study highlights different perspectives about including indigenous knowledge systems (IKS) in education as per India's National Education Policy (NEP) 2020. Though the overall response is positive, there are important nuances, especially in terms of gender and regional differences, that can help inform more targeted approaches to the policy's implementation.

For one, the near-consensus that integrating indigenous knowledge in education is a vital step towards which we should all strive (mean = 4.3), confirms an acknowledgement by all participants of

the potential value of IKS in preserving culture. Indeed, the present finding is in line with previous papers that have argued for education systems to incorporate the cultural diversity of the country, not only contemporary knowledge but also traditional knowledge accumulated over generations (1). Also, with an average score of 4.4, it reinforces this learning, that respondents feel that the continuity of Indian culture remains through indigenous knowledge and which in turn preserves the diverse cultural fabric and heritage of India.

But the gender differences highlighted in the study are striking. Also, on both items, female respondents revealed higher agreements. This result mirrors greater social patterns, in which women — particularly in rural and indigenous settings — have traditionally served as the custodians of tradition. They are frequently charged with teaching children language, cultural practices, and rituals that are instrumental in passing down traditional knowledge [2]. Finally, the gender difference in perception of indigenous knowledge, however statistically significant, may indicate a greater emotional and cultural attachment by the women to the preservation of such traditions. It could be related to the roles women play in family and community life that often have them more up close and personal with traditional practices and values.

In addition, the sharp differences in responses according to geographical variations underscores the role played by the context of indigenous knowledge. Compared to urban respondents, rural respondents showed greater support for including indigenous knowledge in education (mean = 4.3), with higher levels of awareness (mean = 4.2). This trend is to be expected, as indigenous knowledge systems are most ingrained within rural livelihoods, where practices such as ways of farming, local crafts and oral stories are still generally integral parts of everyday life [3]. Respondents in Urban only have experience in more globalized areas, so traditional knowledge may not be emphasized as much as more modernized teachings. The same regional divide for NEP 2020 implementation—this is related to the challenge of implementing NEP 2020 in regional schools, which may not require immediate contact with indigenous knowledge. NEP 2020's implication to the indigenous educational institutes and their mode of its successful attachment to the urban Indian students would be through a meaningful engagement approach with this urban population and making them feel relevant to their life through an engagement in their knowledge tradition which is indigenous.

The data points to considerable support for the integration of indigenous knowledge, but challenges in doing so should not be ignored. The survey also found that most respondents -- especially those living in major urban centers -- feared that a shortage of trained teachers and learning resources would limit the effective teaching of indigenous knowledge. Such concerns are analogous to larger criticisms of teachers' training programs of those subjects that do not belong to the mainstream curriculum in India [4]. Similarly, without resources and systematic professional development, the opportunities to integrate indigenous knowledge into the educational system were limited [5].

On the other hand, the supportive training mean indicates the commitment and interest to have more extensive specialized trainings in this area, whilst the concerns with integrating indigenous knowledge mean can indicate that there are deeper systemic problems such as lack of coordination within policy makers and educators as well as with indigenous communities. Surmounting these barriers will thus be an absolute necessity and will necessitate not only the creation of appropriate curricula, but also the formation of relationships with local knowledge custodians, such that training is both genuine and correctly imparted [6].

The NEP 2020 thus provides a framework for working towards its goal of integrating indigenous knowledge into a unique Indian school of thought, while making provisions for its flexibility in regional and gender-based differences, however, the actualization of NEP 2020 would require fine-tuning to the existing system. Tailoring policies to the specific needs and contexts of rural and urban areas, as well as acknowledging the cultural functions women fulfill in preserving indigenous

knowledge is vital to this initiative's success. Also, institutional challenges, such as teacher training and resource availability, must be emphasized in the effective translation of policy intentions into reality. This will require not only a paradigm shift in the Indian educational sector but also new approaches to contemporary issues faced by society, where acknowledging the role of indigenous knowledge can lead to sustainable development and a more equitable society [8].

CONCLUSION

As we conclude this study, we firmly believe that the effort to promote indigenous knowledge systems (IKS) in India through the country's National Education Policy 2020, is a promising step in sustaining the ethnomatrix of the poorest billion. Around the world, there is great support for indigenous knowledge to be included in education, as many of those questioned understand that education is crucial for allowing the continuity of their culture. NEP 2020 promotes an education system that is more inclusive and culturally enriching, and the fact that it is registering with the people and across the nation is a sign of the positive impact of NEP 2020 vision. But it is equally apparent that problems persist, particularly concerning the practical delivery of this vision.

These gender-based differences reflect those seen in previous studies and indicate that women, who are often the custodians of local practices and traditions, will be more likely to value cultural knowledge preservation. Their greater attunement to wanting to see indigenous knowledge valued reflects a more emotional connection to these traditions, which tend to be transmitted through families and communities. That this is more than just a top-down, pathologization of the education system can only happen if we are able to identify and amplify women's role in this process as well.

Comments (0) the regional differences — particularly the more robust support and awareness of indigenous knowledge in rural areas — call for place-based strategies. In rural communities, where traditional ways of life remain integral to daily life, the engagement with introducing indigenous knowledge into the education system is stronger. Indigenous knowledge may require more direct engagement in urban settings to reawaken interest and awareness. That means the kind of educational reforms that do not treat traditional content as an add-on to curricula but make these lessons relevant to the day-to-day realities of urban students, and respectful of the cultural uniqueness of rural communities.

The study further highlights the practical challenges of integrating indigenous knowledge. In conclusion there are recommendations for teacher training programmes to educate faculties for such classes, but also limitations on resources and curriculum development. NEP 2020 risks not achieving its goal of bridging the gap between modern education and traditional knowledge without addressing structural issues like a lack of trained educators and teaching materials.

Bringing the vision of NEP 2020 to life will require close collaboration among the government, educational institutions and indigenous communities. Legislating the inclusion of indigenous knowledge in schools is not enough; it has to be backed up with investment in teacher training, engagement with the community, designing cultural and relevant educational resources with access to the right people.

For this initiative to succeed, however, it will need to strike a careful balance between implementing new educational practices while honoring the rich tapestry of India's cultural heritage. Moving forward it is vital to ensure indigenous knowledge is properly included in the fabric of the nation's curriculum. It is not only to preserve the past but to ensure that future generations of literature advocate to navigate an ever-changing divide and still remain united in understanding what defines their culture.

Ultimately, NEP 2020's commitment to indigenous knowledge is less about policy, and more about a re-envisioning of how education does not need to choose between modern and traditional, and

instead, be based upon the very rich cultural legacy of India that can help craft a more inclusive and culturally conscious nation.

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