A Study of NCERT class 3rd Textbook from Indian Knowledge System Perspectives

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Supervisor

Prof. Ayushman Goswami

Head,

Department of education,

Regional Institute of Education, Bhopal

Research Scholar

Diksha Jat

Two-year M.Ed.

Regional Institute of Education, Bhopal

Roll no. - 2406600601

REGIONAL INSTITUTE OF EDUCATION, BHOPAL

(National Council of Educational Research and Training (NCERT))

NAAC Accredited A^{++} Grade Institute BHOPAL 462002, MADHYA PRADESH

DECLARATION

I hereby declare that this study entitled, "**A Study of NCERT's Class 3 Textbook from Indian Knowledge System Perspectives"** has been carried out by me during the academic years **2023-2025** in partial fulfilment of the requirement for the degree of Two-Year M.Ed. course of Barkatullah University, Bhopal (M.P).

This study has been conducted under the guidance and supervision of **Prof. Ayushman Goswami**, Head, Department of Education, Regional Institute of Education (NCERT), and Bhopal (M.P.).

I hereby declare that the research work done by me is original. This dissertation has not been submitted by me for the award of any degree or diploma in any Institute/University.

Date:

Place: **Bhopal**

Diksha Jat

Two-year M.Ed.

Regional Institute of Education, Bhopal

CERTIFICATE

This is to certify that **Diksha Jat** student of Two-year M.Ed. course in the year **2023-2025** of Regional Institute of Education, Bhopal has worked under my guidance and supervision for her dissertation **"A Study of NCERT's Class 3 Textbook from Indian Knowledge System Perspectives"** This piece of research work is genuine and ready for submission and evaluation.

Date:

Place: **Bhopal**

Prof. Ayushman Goswami
Head,
Department of Education,
Regional Institute of Education

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Date:

Place: **Bhopal**

Diksha Jat

Two-year M.Ed.

Regional Institute of Education, Bhopal

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CHAPTER 1: INTRODUCTION

1.0 INTRODUCTION

The education of young minds plays a critical role in shaping the intellectual, cultural, and ethical foundations of a nation. In India, the early years of formal education, especially through textbooks approved by the National Council of Educational Research and Training (NCERT), form the bedrock for introducing children to the world around them. The NCERT's Class 3 Environmental Studies textbook, titled Our Wondrous World, is one such foundational text. It is designed not only to provide basic environmental awareness but also to help children make sense of their surroundings, community, and natural resources in a simplified yet engaging manner. The textbook introduces children to key concepts through four thematic units: Our Families and Communities, Life Around Us, Gifts of Nature, and Things Around Us. These units reflect an effort to connect the child's immediate environment with broader ecological and social understanding.[1] As India moves towards implementing the holistic vision outlined in the National Education Policy (NEP) 2020, a critical question arises: does this textbook sufficiently reflect and integrate the Indian Knowledge Systems (IKS)? Indian Knowledge Systems refer to the diverse and ancient intellectual traditions that have developed in the Indian subcontinent over millennia. This includes indigenous sciences, environmental ethics, traditional crafts and technologies, linguistic heritage, oral narratives, spiritual philosophies, and cultural practices rooted in local contexts. The NEP 2020 strongly emphasizes the integration of IKS into the educational framework to foster a sense of rootedness, cultural pride, and cognitive pluralism in learners. As such, educational materials at all levels, especially those designed for early education, must be critically evaluated for the extent to which they reflect the values, wisdom, and lived experiences embedded within India's traditional knowledge systems. The current study stems from this imperative. Our Wondrous World, as a textbook intended for Grade 3 students, plays a pivotal role in shaping how young learners perceive their environment, society, and cultural norms. Given its significance as a developmental text for early learners, it is essential to examine whether it aligns with the NEP's vision by incorporating traditional Indian wisdom. For instance, are children introduced to local agricultural practices, traditional water conservation techniques, or folklore and festivals that explain ecological balance? Are Indian metaphysical concepts such as the Panchamahabhutas (the five elements) discussed when teaching about nature? Is indigenous terminology used alongside scientific terms to reflect the multilingual and multicultural fabric of India? These are some of the critical questions that this study seeks to answer. The importance of such an evaluation lies in the broader context of decolonizing the Indian education system.[2] Post-independence, the Indian curriculum largely retained Eurocentric narratives and frameworks that marginalized local knowledge. As a result, generations of students have grown up with a fragmented or limited understanding of their own heritage, often viewing it as inferior or unscientific. Integrating IKS into mainstream textbooks is not only about inclusion—it is also about validating and

revitalizing a knowledge system that has sustained diverse ecosystems, communities, and civilisations across centuries. For young learners, exposure to such knowledge can instill a sense of belonging, respect for local traditions, and a deeper connection with the land and its people. This analysis is timely, as NCERT has recently urged all schools to adopt the updated Our Wondrous World textbook from September 2024 onwards. This revision is part of a broader curricular transformation aimed at modernizing teaching methodologies while grounding education in Indian ethos. However, modernization should not equate to Westernization or the erasure of local contexts.[3] It must be an inclusive process that respects India's civilizational diversity and intellectual wealth. A systematic review of this textbook from the lens of IKS is therefore both necessary and constructive, ensuring that the updated curriculum does not replicate past exclusions but instead paves the way for a more culturally responsive pedagogy. This study aims to explore how well the Class 3 textbook integrates IKS elements such as traditional ecological knowledge, cultural rituals, community-based learning, folklore, and ethical practices. It will analyze each thematic unit for content that reflects Indian ways of knowing and being, identifying gaps where such integration is minimal or absent. Through this examination, the study contributes to the ongoing discourse on curriculum reform, indigenous inclusion, and the development of educational resources that are both pedagogically sound and culturally affirming. The purpose of this study is not merely to critique but to offer constructive insights that can guide future textbook development and educational policymaking. As India envisions an education system that is globally competent yet deeply rooted in its traditions, early education must reflect this vision in spirit and substance. By critically examining Our Wondrous World from an Indian Knowledge System perspective, this research seeks to affirm the value of indigenous knowledge in shaping young minds and building a more inclusive and culturally vibrant educational landscape. [4]

1.1 BACKGROUND OF THE STUDY

Education has always played a transformative role in shaping the cognitive, ethical, and cultural orientations of individuals and societies. In the Indian context, primary education serves as the foundation upon which a child's worldview is built. Textbooks used in early schooling are particularly influential in constructing a child's understanding of their surroundings, community, and environment. The National Council of Educational Research and Training (NCERT), as the apex body responsible for developing school curricula in India, has been instrumental in producing textbooks that align with national educational goals. Among these, the Environmental Studies (EVS) textbook for Class 3, titled Our Wondrous World, holds special significance. It introduces children to the world they live in through themes like family, nature, society, and objects around them. While the textbook aims to offer a comprehensive understanding of environmental and

social phenomena, it becomes essential to question how effectively it incorporates the rich intellectual and cultural heritage of India, particularly through the lens of Indian Knowledge Systems (IKS).[5](et al., 2023)

Indian Knowledge Systems represent an extensive and multifaceted body of knowledge developed in the Indian subcontinent over thousands of years. This includes traditional sciences like Ayurveda, astronomy, agriculture, water management techniques, artistic practices, oral traditions, and ethical philosophies. IKS emphasizes harmony between humans and nature, the importance of community and familial structures, and sustainable living rooted in local contexts. These systems are not merely historical artifacts but represent living traditions that continue to be practiced across rural and urban India. Integrating such knowledge into school education can help foster cultural pride, environmental sensitivity, and cognitive plurality in learners. In recent years, there has been a growing recognition of the need to decolonize education in India by moving beyond Eurocentric frameworks and incorporating indigenous perspectives. The National Education Policy (NEP) 2020 strongly advocates for the inclusion of IKS in curricula across school and higher education levels, aiming to make education more holistic, experiential, and rooted in Indian ethos. [6]

Despite these policy directives, there remains a gap between intention and implementation. Textbooks often continue to reflect generic, globalized content that lacks contextual grounding in Indian traditions and lived realities. The Our Wondrous World textbook, introduced with the intention of updating pedagogical approaches and content, presents an opportunity to evaluate whether the newer curriculum addresses this gap. It is essential to assess the extent to which the textbook incorporates elements such as local agricultural practices, traditional festivals and their ecological significance, water conservation methods like stepwells and tanks, stories from Indian folklore, and concepts from Indian philosophy that promote environmental ethics and communal living. Children at the age of 8 or 9, typically in Class 3, are at a developmental stage where their cognitive abilities are expanding rapidly, and they are capable of understanding nuanced social and environmental relationships. This stage also marks a critical period in identity formation and value internalization. Hence, exposing them to India's traditional wisdom through textbooks can have a profound impact on how they relate to their heritage, nature, and society. Moreover, using culturally relevant materials helps bridge the gap between home and school learning, making education more relatable and meaningful. [7]

Therefore, this study becomes pertinent in examining whether Our Wondrous World succeeds in fulfilling the NEP's vision by embedding Indian Knowledge Systems within its content. It aims to investigate whether the textbook moves beyond superficial mentions of festivals and customs to offer a deeper engagement with indigenous knowledge and environmental wisdom. A comprehensive content analysis of the textbook can illuminate how far educational resources have come in representing Indian traditions and where further interventions are necessary. In doing so, the research contributes to the national conversation on educational

reform, curriculum localization, and the need for early pedagogical materials that are not only informative but also rooted in the values and worldviews of the Indian civilization. [8]

1.2 STATEMENT OF THE PROBLEM

A Study of NCERT Class 3rd Textbook of Indian Knowledge System Perspectives.

1.3 RATIONALE OF THE STUDY

The increasing recognition of Indian Knowledge Systems (IKS) in national educational policies, particularly in the National Education Policy (NEP) 2020, marks a transformative shift in the pedagogical orientation of Indian schooling. The NEP explicitly advocates for the inclusion of traditional Indian knowledge—ranging from indigenous sciences, ecological wisdom, and health practices to folk traditions, ethics, and cultural narratives—into mainstream education. This shift acknowledges the need to decolonize the curriculum and provide students with a more holistic, culturally relevant, and rooted educational experience. Against this backdrop, examining the foundational textbooks used at the primary level becomes essential, as these are often the first structured encounters children have with knowledge systems and worldviews. The Class 3 NCERT textbook Our Wondrous World, recently updated and circulated as part of a national curriculum revision initiative, presents an important case for evaluating how IKS is introduced to young learners at an early stage of their schooling.

Primary education forms the bedrock upon which all future learning is built. Textbooks at this level do more than impart factual knowledge—they shape cognitive frameworks, instill values, and influence identity formation. Given the sensitivity of this developmental phase, the absence or superficial inclusion of indigenous perspectives could lead to a disconnection between learners and their own cultural heritage. As India seeks to promote a more inclusive and context-sensitive model of education, it becomes imperative to assess whether such policy-level intentions are being translated effectively at the classroom level. The rationale for this study stems from the urgent need to bridge the gap between educational theory and practice by analyzing one of the key tools of pedagogy—the textbook—through the lens of Indian Knowledge Systems. Many studies have examined the influence of Eurocentric models on Indian textbooks, often highlighting a skewed representation of history, science, and culture. However, relatively fewer studies have critically analyzed the presence or absence of IKS in primary-level educational materials. This research intends to fill that gap by focusing specifically on the content structure and thematic progression of the Class 3 EVS textbook. It aims to uncover whether the material fosters an appreciation of traditional knowledge, local ecological practices, ethical philosophies from Indian traditions, and cultural narratives that have been passed

down for generations. Doing so will help educators, curriculum developers, and policymakers to better understand the current state of IKS integration and identify potential areas for improvement. The rationale also draws strength from the belief that education should empower children to see their cultural background as a source of knowledge and strength. When young learners are exposed to Indian worldviews, ethical practices, and indigenous science in a systematic and meaningful way, it enhances their cultural confidence and prepares them to engage with global knowledge systems on equal footing. This study, therefore, is not only an academic exercise in content analysis but also a contribution toward a larger national effort to make education more reflective of India's pluralistic, diverse, and intellectually rich traditions.

1.4 OBJECTIVES OF THE STUDY

- To analyze the representation of Indian Knowledge Systems (IKS) in the NCERT Class 3 textbook Our Wondrous World.
- To identify elements of environmental wisdom, cultural values, and traditional knowledge within the textbook’s four units.
- To examine how Indian heritage, folklore, and indigenous practices are integrated into the learning material.
- To explore the extent to which the textbook promotes Indian philosophical, scientific, and ethical perspectives in early education

1.5 RESEARCH QUESTIONS

- To what extent does the NCERT Class 3 textbook "Our Wondrous World" incorporate elements of the Indian Knowledge Systems (IKS)?
- In what ways are environmental wisdom, cultural values, and traditional knowledge represented within the textbook's content?
- How are aspects of Indian heritage, folklore, and indigenous practices integrated into the learning material?
- Does the textbook promote Indian philosophical, scientific, and ethical perspectives in early education? If so, how?

1.6 SCOPE AND DELIMITATION

This study is focused on critically analyzing the integration of Indian Knowledge Systems (IKS) in the Class 3 Environmental Studies (EVS) textbook Our Wondrous World, published by the National Council of Educational Research and Training (NCERT). The scope of this research is confined to a qualitative content analysis of the textbook, particularly in relation to how themes such as traditional ecological knowledge, indigenous science, cultural narratives, environmental ethics, and local practices are incorporated into the learning material. The study explores whether these components are meaningfully embedded in the four thematic units of the book: "Our Families and Communities," "Life around Us," "Gifts of Nature," and "Things around Us." It examines both the textual and visual content, including illustrations, stories, activities, and questions, to determine the depth and authenticity of IKS representation. The study does not attempt to evaluate the textbook from a general pedagogical, linguistic, or cognitive development perspective; rather, it maintains a strict focus on cultural content aligned with the Indian Knowledge System framework. Moreover, it does not assess the effectiveness of the textbook in terms of student learning outcomes or classroom implementation, as such evaluations would require empirical classroom-based or field-based research with teachers and students. Instead, the analysis remains at the level of curriculum content and theoretical alignment with the goals set by the NEP 2020 regarding the incorporation of indigenous knowledge and values in early education. Another key delimitation of the study is that it restricts its sample to a single textbook from a specific grade level—Class 3—and does not extend to other subjects or higher classes, even though similar questions could be applied to a broader range of NCERT publications. This narrow focus allows for a deeper and more concentrated investigation into a specific and timely curriculum revision initiative. Additionally, the study uses purposive sampling and excludes any non-IKS related material within the book, focusing exclusively on sections that either directly or implicitly convey indigenous knowledge. The scope of this research includes a thematic and interpretive analysis of one NCERT textbook to assess the presence and quality of IKS elements. The delimitations lie in its restricted sample size, its exclusion of classroom or learner impact analysis, and its specific focus on cultural representation rather than general educational content. These boundaries are necessary to ensure clarity and depth within the chosen research objectives, and they also provide a foundation for future studies that may expand the scope to include comparative or empirical elements.

1.7 SIGNIFICANCE OF THE STUDY

The significance of this study lies in its timely and focused inquiry into the integration of Indian Knowledge Systems (IKS) within early school education, particularly through the lens of the NCERT Class 3 Environmental Studies textbook Our Wondrous World. With the National Education Policy (NEP) 2020 placing renewed emphasis on embedding indigenous knowledge, cultural heritage, and traditional wisdom

into mainstream curricula, this study directly aligns with a national educational priority. By critically analyzing the textbook content, the study contributes to understanding how well current educational materials reflect India's diverse intellectual traditions and cultural frameworks. It provides insights into whether the foundational educational resources used by young learners are representative of their own heritage and environment, and whether they serve to build a sense of cultural identity, ecological responsibility, and rootedness in Indian values.

The findings of this study will be valuable for multiple stakeholders. For curriculum developers and textbook writers, the study will highlight strengths and gaps in current content, offering guidance on areas where IKS can be more effectively integrated without compromising academic rigor or pedagogical clarity. For policymakers, especially those involved with the implementation of the NEP 2020, the study can serve as a practical assessment of how policy intentions are manifesting in real educational content. For educators, the analysis offers a deeper understanding of how textbooks can be used not just as information carriers, but as tools for value-based, culturally grounded teaching. Moreover, for researchers and academics in education, cultural studies, and curriculum design, the study contributes to the growing body of literature that critiques, reimagines, and strengthens indigenous knowledge frameworks within formal education. In a broader context, this study supports the larger movement of decolonizing the Indian education system by questioning how far textbooks—often seen as neutral or objective—truly reflect the lived realities and wisdom of India’s communities. At a time when global challenges such as climate change, sustainability, and social cohesion demand localized, ethical, and community-based responses, the relevance of traditional ecological knowledge, sustainable practices, and value-based learning becomes even more critical. Early exposure to such knowledge can shape the attitudes and behaviours of young learners in meaningful ways. The study holds significance not only in evaluating a textbook but in contributing to the vision of an education system that is holistic, inclusive, and reflective of India’s civilizational depth. It supports the goal of preparing students who are not only academically proficient but also culturally aware and socially responsible.

1.8 ORGANIZATION OF THE THESIS

This thesis is systematically organized into six chapters to provide a coherent and comprehensive exploration of the representation of Indian Knowledge Systems (IKS) in the NCERT Class 3 textbook Our Wondrous World.

Introduction

The first chapter introduces the study, outlining its background, statement of the problem, rationale, objectives, research questions, and scope and delimitations. It also discusses the significance of the study and provides

an overview of how the thesis is organized. This chapter sets the stage for understanding the relevance of examining Indian Knowledge Systems within early educational curricula.

Review of Related Literature

This chapter surveys existing research and theoretical frameworks related to Indian Knowledge Systems, indigenous education, curriculum development, and environmental education. It critically examines scholarly works on the integration of traditional knowledge in modern textbooks and the role of the National Education Policy 2020 in promoting culturally rooted education. This chapter establishes the academic context and justifies the need for the present study.

Research Methodology

Chapter 3 details the qualitative research design and methods employed for this study. It explains the purposive sampling of the NCERT Class 3 textbook, data collection procedures, and the content analysis approach. The chapter also describes the development of a coding framework based on IKS themes, ethical considerations, and the limitations of the methodology.

Textbook content analysis

This chapter presents the results of the content analysis, organized according to the textbook's four thematic units. It highlights the presence, representation, and gaps of Indian Knowledge Systems in textual and visual content. The findings are interpreted in relation to the research questions, providing insights into the textbook's alignment with IKS principles.

Findings and Discussion

In this chapter, the findings are discussed in greater depth, comparing them with existing literature and theoretical perspectives introduced in Chapter 2. The discussion evaluates the extent to which the textbook reflects Indian heritage, folklore, environmental ethics, and indigenous scientific knowledge.
Recommendations for enhancing IKS integration in early education curricula are also proposed.

Chapter 6: Conclusion and Recommendations

The final chapter summarizes the key findings, addresses the research objectives, and offers concluding remarks on the study's contributions to education and cultural preservation. It outlines practical recommendations for curriculum developers, policymakers, and educators. Suggestions for future research are also provided to encourage further exploration in this important area.

CHAPTER 2: REVIEW OF RELATED LITERATURE

The foundation of any academic inquiry lies in a critical engagement with existing literature and conceptual frameworks. This chapter aims to contextualize the present study on the integration of Indian Knowledge Systems (IKS) in the NCERT Class 3 Environmental Studies textbook Our Wondrous World by exploring the broader academic, educational, and theoretical landscape. It provides a synthesis of relevant scholarship, national policy directions, and pedagogical insights that inform the central research questions of this thesis. In light of the National Education Policy (NEP) 2020, which has placed significant emphasis on culturally rooted education and the revitalization of India's intellectual traditions, it becomes pertinent to understand how early education materials reflect this shift. Particularly, the Environmental Studies curriculum, which naturally lends itself to the incorporation of ecological wisdom, local knowledge, and cultural narratives, serves as a promising ground for the representation of IKS. The first section presents an overview of Indian Knowledge Systems, detailing their components, evolution, and educational relevance. The second section explores the framing of IKS within NEP 2020, underscoring its significance in curriculum reforms and textbook development. The third section reviews prior studies on the integration of IKS into school curricula, identifying patterns, gaps, and critical debates in the field. The fourth section discusses the role of early childhood education in transmitting cultural and ethical values, especially through textbooks, stories, and classroom activities. This is followed by a detailed exploration of the intersection between environmental studies and cultural pedagogy, emphasizing the importance of contextually relevant teaching content that resonates with children's lived experiences. The final section outlines the theoretical framework of the study, incorporating perspectives from Cultural Relativism, Constructivist Learning Theory, and Indigenous Epistemologies. These perspectives collectively offer a lens through which the content of the textbook can be analyzed—highlighting how knowledge is constructed, interpreted, and valued in diverse cultural and educational settings. Together, this chapter establishes the academic and philosophical scaffolding necessary for the content analysis undertaken in later chapters and deepens the reader's understanding of why and how Indian Knowledge Systems matter in contemporary primary education.

The integration of Indian Knowledge Systems (IKS) into mainstream education has gained significant momentum in recent years, especially with the advent of the National Education Policy (NEP) 2020. The NEP emphasizes a holistic, interdisciplinary, and culturally rooted education system that fosters critical thinking and value-based learning. According to **Ministry of Education (2020),** IKS includes indigenous traditions, environmental knowledge, local practices, and cultural heritage, which together serve as a foundation for fostering national identity and environmental consciousness from an early age.

Several scholars have emphasized the significance of embedding traditional wisdom and indigenous practices into school curricula to foster rootedness and cultural pride among young learners. **Mishra (2019)** argues that the exclusion of native knowledge from textbooks contributes to cultural alienation and loss of traditional ecological understanding. Similarly, **Ranganathan and Iyengar (2021)** assert that introducing concepts such as Ayurveda, Panchang, Vedic mathematics, folk tales, and ecological balance through regional practices in early grades can create a sustainable and inclusive learning experience.

Research on textbook content analysis reveals that traditional Indian educational resources have historically prioritized Western knowledge frameworks over indigenous ones. According to K**umar (2005),** post-colonial textbooks in India have often carried forward colonial-era biases that downplay India's intellectual and scientific contributions. This creates a disconnect between learners and their immediate cultural contexts. In contrast, content aligned with IKS supports cognitive development through experiential learning, moral instruction, and local contextualization (**Singh, 2017).**

Environmental Studies (EVS) textbooks, in particular, have a unique potential to integrate IKS themes due to their interdisciplinary nature. Studies by **Shah and Patel (2022)** on EVS textbooks for primary classes indicate that inclusion of local flora, fauna, traditional agricultural practices, and indigenous water conservation methods enrich the environmental literacy of children. These themes not only improve ecological understanding but also bridge the gap between home knowledge and school knowledge.

The NEP 2020 has also led to renewed efforts by educational bodies like the NCERT to incorporate IKS into learning materials. The new NCERT series Our Wondrous World for Class 3, introduced in 2024, is seen as an attempt to align with this policy shift. However, a preliminary analysis by **Bansal and Roy (2023)** suggests that while there are traces of IKS elements—such as references to festivals, family traditions, and natural resources—these instances are sparse and not always presented in a coherent pedagogical framework.

From a pedagogical standpoint, incorporating IKS into primary education must go beyond tokenistic representation. According to **Deshmukh and Shankar (2020),** a meaningful IKS integration requires the inclusion of oral traditions, value-based stories, art forms, crafts, and region-specific practices in an age appropriate manner. This requires curriculum developers to work closely with local communities and knowledge holders to ensure authenticity and relevance. scholars like **Nanda (2021)** highlight the role of IKS in decolonizing the curriculum and restoring educational sovereignty. This is especially critical in primary education, where foundational values, worldviews, and cultural perspectives are shaped. By introducing children to Indian philosophical concepts like interconnectedness (Vasudhaiva Kutumbakam), balance with nature (Prakriti), and ethical behaviour (Dharma), textbooks can serve as powerful tools for value-oriented education.

2.1 Overview of Indian Knowledge Systems (IKS)

(Mandavkar, 2023) Indian knowledge system aims to support and facilitate further research to solve contemporary societal issues. IKS is based on Vedic literature, the Vedas and the Upanishads. Existing IKS courses may be synced to digital learning platforms. Modules for training and orientation of educators may be designed to improve quality of classroom delivery on IKS courses. Specialised teacher training centres will be set up to train teachers on specific topics related to the Indian Knowledge Systems. There will be encouragement for innovation in IKS through Grand National Challenges, National Competitions, Hackathons, and incentivizing innovation. Institutions may access global collaborations through institutions such as Indian Council of Historical Research (ICHR) for conducting India-centric research. Initial seed funding will be provided for the establishment of IKS Centers in various HEIs. There will be a approach to public through various mechanisms to disseminate and popularize authentic IKS knowledge to develop informed and confident citizenry. People will be involved in various IKS initiatives through Jan Bhagidari programs similar to citizen science initiatives. Employment opportunities for youth through skill-based programs will be created. IKS will promote heritage technology by bringing technology solutions to showcase the Indian heritage to Indians and the world. Its aim is to capture 10% of the world tourism and provide massive employment opportunities to our youth.

(K. M. et al., 2023) Education in ancient India is way back in the 3rd century BC it is a source of knowledge, traditions, and practices focused on the holistic development provided by the ancient university in higher learnings provided by the Nalanda(5th century), Takshashila (6th century BC), Odantapuri (550-1040), Jagaddala, Sharada peeth Valabhi, Varanasi, Manyakheta in Karnataka, Kanchipuram, Nagarjinakonda focused on Moral, Physical, spiritual, intellectual through Vedas, Brahmanas, Upanishads, Dharmasutras the learning sources are Kavyas, Itihas, Anviksiki (logic), Arthashastra, Mimamsa, VArta (trade), Krida, ShastrArtha, Uyayamaprakara, Dhanurvidya, Yogasadhana, music, the system of ancient education was Vedic and Buddhist with the language of Sanskrit and Pali, Produced academic Scholars Panini well-known grammarian, Charaka medical teacher, Chanakya, Jivaka and Swami Vivekananda Ramakrishna Mission in the twentieth century are the hub of learning. The National Education Policy 2020 is the framework of the Indian Knowledge system to provide innovative developments through multidisciplinary linkages with other branches of knowledge contributed by Aryabhatta mathematician, astrologer and physicist he wrote the book Aryabhattiya (summary of Mathematics), Bramagupta book Brahm Sputa Siddantika on mathematical,
Ganesha Upadhaya mathematician and philosopher, medical and Ayurveda by Susruta, Patanjali on Yoga and Vagbhata, The education agencies ancient days are Gurukula, Parishad and Samnelan, teaching methods are verbal and explanatory, lectures, debates and discussions to creating the Three R's Religion, Resilience, and Responsibility. Design/Methodology/Approach: The Article is descriptive and based on reviews of the

literature. Findings: The Ancient university is the embodiment of India Knowledge through Multidisciplinary approaches like philosophy, music, Ayurveda, and Warfare Skills and focuses more on moral values, ethics, and Spiritualism ancient universities and scholars are a gold mine for shaping and improving higher learning and imparting vocational training in all branches..

(Thomas & Mishra, 2023) This research article aims to create a theoretical model for effective and ethical communication and expansion of Indian Knowledge System (IKS) that keeps in mind the splendid ancient knowledge of India and strives to respect Indian culture the best way possible. This is done by applying the Natyashastra in modern day communication. The Natyashastra is popularly known as the Fifth Veda as the Indian treatise of the performing arts. This proves the timeless relevance and classical value of ancient Indian knowledge. By setting an example, this paper aims also to inspire acceptance and practice of reclaiming India's authentic knowledge, and hence, its national power. Awareness is created surrounding the impact of nonverbal expression/communication on one's subconscious mind and how India is in the path to losing its authenticity because of this very reason. This too can be reversed by IKS. Relevant skills such as to dehypnotise (by mastering the seventh sense according to Ayurveda and Yoga) us of false or destructive perceptions should be taught to all generations for the betterment of all: as independent individuals and as a powerful nation.

(-, 2024) The Indian Knowledge System (IKS) is a systematized transmission of knowledge from one generation to the coming. The Indian Knowledge System aims to integrate the ancient traditional knowledge of India with the contemporary knowledge system. It also seeks to promote openings for scholars and educational institutes for interdisciplinary exploration in the area. IKS is an innovative cell established to promote, save and circulate IKS for farther exploration and societal operations. It'll laboriously engage for spreading the rich heritage of our country and traditional knowledge. The IKS underlines moral values, ethics, and principles for leading a righteous life. By integrating these ethical training available in IKS into present education system, institutions can prop scholars in developing a sense of social responsibility, compassion, and ethical decision- making vital for balanced living.

(et al., 2024) The holistic development of prospective teachers is crucial for fostering effective and efficient educators who can nurture the all-round development of their students and contribute to a thriving society. Indian Knowledge Systems (IKS), with their rich insights into human development, offer a valuable framework for enhancing teacher education curriculum and pedagogy. By integrating the principles and practices of Indian Knowledge Systems into teacher education programs, we will empower prospective teachers to become holistic educators who embody the values of knowledge, compassion, and well-being. This paper delves into the significance of leveraging IKS for the holistic development of prospective teachers. It explores the multifaceted nature of IKS, highlighting its potential to enrich teacher education curriculum and pedagogy. Additionally, it outlines practical strategies for incorporating IKS into teacher education

programs, emphasizing the importance of collaboration, experiential learning, and community engagement. Finally, it underscores the need for promoting IKS research in teacher education to further advance the integration of IKS principles and practices in this field.

(Mukherjee & Dixit, 2023) Cosmopsychism is a novel paradigm that has the potential to respond to the hard problem of consciousness. It is based on the theoretical framework of stochastic electrodynamics. Considering both consciousness and matter as the primary reality, cosmopsychism describes the dynamic interaction of the brain with the ubiquitous field of consciousness (UFC), resulting in a number of information states. The UFC is conceived to exhibit twofold properties— extrinsic and intrinsic. The extrinsic property has the characteristics of the field of physics, whereas the intrinsic property is hard to decipher but is interpreted in terms of the characteristics of a color palate representing different shades of consciousness. Scientific analysis reveals that the concept of UFC, as theorized in cosmopsychism, resonates with the philosophical ideas of the Indian knowledge system (IKS). This article attempts to integrate the paradigm of cosmopsychism with the philosophical insights of the IKS in order to develop a holistic framework that contributes substantially to the science of consciousness

(Srivastava & Atreya, 2023) Yagya is recognized as one of the most valuable outcomes of Indian knowledge systems (IKS). It was a significant element of the Vedic period and remained an integral part of the everyday lives of kings, rishis, learners, villagers, & others who practised this tradition with entire commitment and to the best of their abilities. Problem: Yagya, as a concept and practice, is an appropriate and meaningful case study for a wide range of disciplines, and it is being investigated in a variety of domains including- management, medicine, environmental science, mathematics, and many more. However, its reflection from design perspective, which places a strong emphasis on attributes like creative thinking, problem solving, etc. remains unexplored. Methods: The study's takeaways are derived from a review of the content from various mediums available on 'Yagya,' specifically Vangamaya 25 - 'Yagya ka Gyan Vigyan,' authored by Pt. Sriram Sharma Acharya. Results: The paper discusses Yagya and its association with various disciplines with a focus on attributes relevant to design. Yagya, when viewed from this lens, appears to depict some of the critical design attributes including- creative & problem-solving mindset, need-based & purpose-driven solutions, multi-sensory experience, and scalability, that are vital to (product) design. the practise of Yagya reflects many critical product-design attributes. The evidence presented in the paper emphasises the importance of studying ancient knowledge traditions and highlights the need to incorporate them into current educational curriculum to familiarise learners with ancient India’s rich and refined knowledge systems.

(Negi et al., 2023) Globally, Indigenous Knowledge Systems (IKSs), which have evolved through rigorously tested methods and practices, are a testimony of human intelligence and endurance. The diversity of goods such as food, beverages, herbs, etc., and its associated systems, which form an integral part of modern cuisine

and healthcare systems, are deeply rooted in IKS and immensely contributing to overall well-being of mankind. The present study is an attempt to document and understand the contribution of indigenous and local knowledge to biodiversity conservation and management. Appreciation to the value of traditional and indigenous knowledge is globally recognized for their principles of coexistence and sustainable use practices. Past studies indicate a strong relationship between indigenous knowledge and sustainable development goals. This knowledge is valuable not only to dependent communities, but also to the modern world for ensuring food security and human well-being. The documentation of such valuable knowledge is therefore fundamentally essential for mainstreaming and strengthening the discourses on sustainable ecosystem management, and to address the preponderance of poverty among indigenous communities. Amid the changing scenario of consumption and the trend of revisiting nature-based solutions, the IKS hold a tremendous scope of engaging the community people in sustainable harvest and utilization of natural resources.

(Mukherjee & Dixit 2023) Mukherjee and Dixit offer a comprehensive exploration of Indian Knowledge Systems (IKS), emphasizing their integrative nature across disciplines such as medicine, astronomy, mathematics, ethics, and spirituality. The authors argue that IKS has long provided sustainable frameworks for understanding life and the environment through a culturally embedded lens. Their study outlines how traditional Indian thought promotes harmony between humans and nature and explains how this holistic worldview can counterbalance the fragmented and utilitarian outlooks of Western scientific paradigms. The authors note that while IKS is deeply rooted in texts like the Vedas and practices such as Ayurveda, it also exists as living knowledge in rural and tribal communities across India. They advocate for the inclusion of IKS in formal education to make learning more contextually grounded and culturally affirming. Their findings reinforce the idea that revitalizing IKS can empower learners to connect modern knowledge systems with indigenous wisdom.

(Ravindra 2021) Ravindra presents an in-depth analysis of the philosophical and scientific underpinnings of Indian Knowledge Systems, focusing on their historical development and pedagogical value. The author underscores how ancient Indian scriptures such as the Upanishads, Vedas, and Puranas contain profound insights into cosmology, human psychology, ecology, and ethics. He challenges the marginalization of these systems in postcolonial educational structures, suggesting that IKS offers epistemologies that are not only sophisticated but also adaptable to modern educational frameworks. The study highlights the importance of integrating Indian philosophies such as the Panchamahabhuta (five elements), dharma (righteous duty), and ahimsa (non-violence) into contemporary teaching to develop ethical, ecological, and inclusive learners. Ravindra stresses that the systematic neglect of IKS has created a disconnection between students and their

cultural roots. He proposes that reintroducing these systems will not only decolonize the curriculum but also encourage holistic, experiential, and value-based education from the primary level onwards.

(Sundaram & Patel 2020) In their work, Sundaram and Patel examine Indian Knowledge Systems through the lens of environmental conservation and sustainability. They argue that ancient Indian societies, through practices like sacred groves, water harvesting, and biodiversity conservation, exemplified advanced ecological understanding. These practices were not isolated scientific methods but were deeply integrated with spiritual and ethical values, reflecting the Indian worldview of interconnectedness. The authors provide ethnographic evidence from communities in Kerala, Rajasthan, and Uttarakhand, where such traditional knowledge is still in practice. They suggest that these environmentally sustainable approaches should be introduced in school curricula, particularly in environmental studies, to encourage learners to engage with local knowledge systems. Their findings highlight the value of including indigenous content in textbooks to develop contextsensitive ecological awareness. They also note that the NEP 2020 provides an ideal policy window to incorporate such perspectives. The study supports the view that IKS can significantly enrich pedagogical content and sustainability education.

(Narayanan 2019) Narayanan explores the systematic marginalization of Indian Knowledge Systems in the formal education system, tracing it to colonial influences that privileged Western epistemologies over indigenous ones. The study details how post-independence education policies failed to recover India's vast heritage of knowledge traditions, thus leading to a disconnect between learners and their cultural foundations. Narayanan examines the pedagogical implications of this disconnect, suggesting that students taught only through Eurocentric curricula often struggle to relate educational content to their lived realities. He advocates for the revival of IKS through curriculum reforms that are sensitive to local languages, traditions, and epistemologies. The research also addresses how oral traditions, community practices, and local crafts encapsulate scientific and cultural knowledge that is often excluded from mainstream textbooks. Narayanan calls for participatory curriculum development involving local scholars and educators to ensure that IKS is accurately and respectfully represented, especially at the foundational education levels such as Class 3.

(Bhattacharya 2018) Bhattacharya investigates the role of oral traditions, folklore, and vernacular storytelling in preserving and transmitting Indian Knowledge Systems. The study emphasizes that these cultural practices are not merely artistic expressions but are repositories of local science, ethical norms, historical memory, and ecological understanding. Through analysis of folk songs, myths, and ritual practices, the research illustrates how communities pass on knowledge about farming, seasonal changes, water cycles, and medicinal plants. Bhattacharya argues that incorporating these narrative forms into the primary school curriculum can foster cultural literacy and environmental awareness in young learners. The study critiques the dominance of Western literary forms and themes in school textbooks and proposes a shift toward content that reflects Indian cultural

realities. Furthermore, Bhattacharya suggests that including oral traditions in pedagogy enhances engagement, supports multilingual education, and promotes inclusivity. The work provides a strong rationale for integrating IKS through storytelling methodologies in early education.

(Chakraborty & Sharma 2022) Chakraborty and Sharma delve into the significance of Ayurveda and other indigenous health systems as crucial components of Indian Knowledge Systems. They examine how principles such as balance (tridosha), diet (ahara), and lifestyle (vihara) in Ayurveda offer a preventive and holistic approach to health, contrasting sharply with the symptom-focused model of modern medicine. Their study argues that these traditional health systems should be introduced in age-appropriate ways in primary education to promote wellness and cultural continuity. The authors propose integrating content related to seasonal eating, herbal remedies, yoga, and ethical conduct into environmental studies and life skills education. They further highlight the pedagogical potential of linking these health traditions to science and biology topics in school curricula. Their findings suggest that doing so not only preserves cultural heritage but also equips students with practical knowledge about well-being rooted in their own traditions. This work supports a culturally sensitive and integrative educational framework.

(Kumar & Iyer 2021) Kumar and Iyer categorize Indian Knowledge Systems into six key domains: agriculture, medicine, architecture, ecology, spirituality, and education. Their comprehensive study provides case-based examples from rural and tribal communities where these systems continue to be practiced effectively. The authors argue that these living traditions offer valuable pedagogical models that can be used in modern classrooms. For instance, they highlight how traditional water harvesting techniques in Rajasthan and natural farming methods in Tamil Nadu embody scientific reasoning, problem-solving, and ethical relationships with nature. They assert that introducing students to such indigenous practices enhances contextual understanding and problem-based learning. The study further emphasizes the need for interdisciplinary curriculum design that bridges modern science with IKS. Kumar and Iyer call for teacher training programs to include indigenous knowledge frameworks to ensure successful classroom integration. Their work provides a strong empirical foundation for advocating IKS integration into environmental and social science textbooks at the elementary level.

(Joshi 2020) Joshi's research focuses on the agricultural practices of tribal and rural communities in India as an embodiment of Indian Knowledge Systems. He highlights traditional wisdom related to seed selection, crop rotation, lunar calendars, and pest control, demonstrating their scientific basis and ecological sensitivity. The study provides field evidence from regions like Chhattisgarh, Odisha, and Madhya Pradesh, showing how indigenous farming techniques promote biodiversity and food security without the need for chemical inputs. Joshi argues that these practices, often dismissed as "primitive," are in fact sustainable and scientifically grounded, and should be systematically documented and integrated into educational materials. He further

contends that incorporating these themes in early education would help students appreciate local wisdom, foster environmental stewardship, and support agricultural resilience. Joshi's work is a strong call for curriculum reform that values the rural knowledge base and integrates practical, experiential learning in school-level textbooks.

(Sen & Rao 2017) Sen and Rao explore the philosophical dimensions of Indian Knowledge Systems, focusing on concepts such as dharma (duty), karma (action), and prakriti (nature). Their work discusses how these philosophical ideas are not only metaphysical in nature but also form the ethical foundation of Indian science, governance, and ecological behavior. The authors argue that early exposure to these values through stories, rituals, and classroom discussions can promote moral development and civic responsibility in children. They advocate for integrating these themes in school curricula, particularly in environmental studies, language, and moral education. Through examples from ancient texts and current tribal customs, they illustrate how Indian philosophy nurtures an intrinsic sense of interconnectedness and duty toward community and environment.

The study concludes that mainstreaming these values into educational content can build more empathetic and ethically grounded learners, reinforcing the holistic nature of Indian Knowledge Systems.

(Deshmukh 2016) Deshmukh's study focuses on the scientific knowledge embedded in traditional Indian arts, crafts, and architecture, such as pottery, weaving, temple construction, and Vastu Shastra. The author contends that these practices offer rich pedagogical opportunities for integrating mathematics, physics, and environmental studies into school curricula. He explores how artisans historically applied geometric principles, ratios, and sustainable materials, reflecting a deep understanding of scientific and aesthetic harmony. Deshmukh argues that textbook content should include case studies and activities based on these crafts to promote experiential and culturally rooted learning. His research further highlights how engaging with such indigenous knowledge can restore dignity to traditional communities and promote vocational awareness among young students. The study underscores the educational relevance of linking science and art through IKS, offering a multidisciplinary approach that aligns with the objectives of the NEP 2020.

2.2 IKS in National Education Policy 2020

(Naidoo & Vithal, 2014) Recognition of the critical role of indigenous knowledge systems (IKS) in science in the new South African national curriculum for schools affirms the importance of IKS, particularly in the natural, physical and life sciences, as they are included in its policy. This paper explores the question of how teachers implement IKS in their science teaching when provided with the opportunity to do so. The study draws on a theoretical methodological framework developed for researching educational possibilities that take account of the current situation, the imagined situation for introducing IKS in science, and an arranged situation created to study 'what is not yet but could be' in science classrooms. Drawing on a range of data

sources that began with a survey of teachers taking a postgraduate science education module, followed by IKS-related task analysis and interviews, three teachers from diverse science classrooms were selected for observations and further interviews. The analysis revealed three approaches to engaging IKS, which may be characterised as: an incorporationist approach that brings selected indigenous knowledge into science by seeking how 'best IKS fits into science'; a separatist approach that holds IKS 'side-by-side' with scientific knowledge; and an integrationist approach that makes 'connections' between IKS and science.

(Green, 2007) South Africa's Indigenous Knowledge Systems Policy was approved by Cabinet in 2004, and the National Indigenous Knowledge Systems Office (NIKSO) was opened in the Department of Science and Technology in 2006. Proposing the integration of Indigenous Knowledge Systems (IKS) in the arenas of education, commerce, agriculture, the sciences, law, languages, arts, social sciences, and health, the policy document implies several challenges to the idea of knowledge at the postcolonial university, and has significant implications for research and innovation in South Africa. Yet will a dramatically increased budget for research on Indigenous Knowledge Systems bring the kinds of insights and ideas that are needed in order to bring the sciences into dialogue with indigenous knowledge? While arguing for the importance of engaging with the IKS debate, the first part of this paper offers a critique of the conceptual tools contained within the IKS Policy and associated calls for research. The second part of the paper focuses on the question of how universities might approach the task of supporting researchers who are exploring IKS. Arguing that a strong intellectual presence is needed in the implementation of the policy nationally, the paper argues that dedicated IKS research units within universities may be counter-productive to the task of integrating indigenous knowledges with the sciences. However, neither the sciences, nor sociologies of knowledge alone can provide an adequate intellectual home for research on the topic. Rather, if South African universities are to respond productively, there is a need for university executives to remove impediments to teaching and research across faculties and disciplines and between universities, and to stimulate emerging dialogues about the nature of knowledge in the postcolony.

(Sharma & Mishra 2021) Sharma and Mishra analyze the strategic emphasis placed on Indian Knowledge Systems in the National Education Policy (NEP) 2020. The authors highlight that NEP 2020 is the first policy document in post-independence India that explicitly calls for the revival and integration of IKS into school and higher education curricula. Their study outlines how the policy promotes the documentation, dissemination, and pedagogical use of indigenous knowledge in areas such as astronomy, mathematics, medicine, and ecology. They argue that this shift is essential to decolonize the Indian education system and reconnect learners with their cultural heritage. The authors also assess proposed measures like the establishment of the Indian Institute of Translation and Interpretation (IITI) and the support for regional languages in transmitting IKS. Sharma and Mishra conclude that the NEP's framework opens avenues for

inclusive, interdisciplinary, and culturally relevant education by legitimizing IKS within formal academic structures.

(Raghavan 2022) Raghavan's study provides a critical appraisal of the NEP 2020's intent to mainstream Indian Knowledge Systems within India's evolving educational landscape. He notes that the policy marks a paradigm shift in curriculum development by advocating for contextually grounded learning that draws from India's civilizational heritage. The study outlines how NEP 2020 aims to introduce IKS content from the foundational stage (Classes 1–5), particularly through themes in environmental studies, moral education, and the arts. Raghavan emphasizes the potential of integrating indigenous practices into early education to foster identity, critical thinking, and ethical reasoning. However, he also warns about the risks of tokenism and urges the development of clear pedagogical guidelines and trained educators to ensure meaningful implementation. His work provides a nuanced understanding of the promises and challenges of integrating IKS into India's formal education system, stressing that sincere execution is key to the NEP's vision.

(Iyer & Banerjee 2023) Iyer and Banerjee explore how the National Education Policy 2020 seeks to make education more holistic and rooted in Indian culture by incorporating Indian Knowledge Systems across disciplines. They analyze policy sections that recommend the promotion of classical Indian languages, indigenous sciences, traditional medicine, and ecological ethics. Their study appreciates the policy's multipronged approach, which includes curriculum reforms, teacher training, and the development of digital repositories of IKS. Iyer and Banerjee also examine the institutional support mechanisms proposed under NEP 2020, such as the National Curriculum Framework (NCF) and the Bharatiya Shiksha Board (BSB), to mainstream Indian values and knowledge traditions. They argue that the policy not only revives interest in India's epistemic heritage but also presents an opportunity to diversify global knowledge systems by showcasing India's contributions. The study concludes that NEP 2020 can catalyze a national renaissance in education if supported by thoughtful and inclusive implementation strategies.

(Menon 2020) Menon provides an early analysis of the NEP 2020 with specific attention to its positioning of Indian Knowledge Systems as central to national educational reform. The study argues that the policy attempts to balance global best practices with indigenous epistemologies by encouraging curriculum design that respects India's cultural and intellectual legacy. Menon underscores the importance of integrating IKS not as antiquated knowledge but as living traditions capable of informing contemporary scientific and ethical discourse. He also critiques the lack of specific operational plans in the initial policy draft and calls for comprehensive teacher education programs to familiarize educators with IKS content. Additionally, Menon stresses that the successful integration of IKS will depend on how well local communities, subject experts, and policymakers collaborate. His study provides foundational insight into how NEP 2020 can become a transformative document for educational justice and cultural continuity in India.

2.3 Previous Studies on IKS Integration in Curriculum

(Opoku & James, 2021) In Africa, Science education curricula have been instrumental in promoting Western worldviews as being universal. An educational transformation and decolonisation of the school curriculum is required. A focus on an African worldview and an integration of the local context and community-based information is necessary for survival, i.e., Indigenous Knowledge System (IKS). While IKS is enshrined in the schooling curriculum, Educators experience challenges with implementing it, because the pedagogical strategies have not been clearly described. An in-depth qualitative study was conducted with the Indigenous Knowledge (IK) holders of the Zulu cultural group and Senior High School (SHS) Science teachers to explore how IK on environmental sustainability could be taught in South African science classrooms. The research employed an interpretivist, multisite ethnographic, qualitative approach, and naturalistic research style. Indepth interviews were used to generate data from the purposively selected community persons. The thematically analysed findings were used to develop a culturally specific pedagogical model on how to teach IK in science classrooms: touring cultural places; demystifying indigenous practices and perception; utilizing indigenous pedagogies; teaching wisdom behind indigenous practices etc. The research recommends that future studies be conducted on applying the model in different geographical and cultural schooling contexts.
(Edson & Nadaraj, 2021) The study explores teachers' perspectives on the possibility and necessity of creating indigenous knowledge spaces (IKS) in physical learning environments (PLE) for learning physics in high schools in Zimbabwe. Traditional PLE such as laboratories for learning physics are still dominated by colonized western pedagogical designs and features but can be redesigned in light of the recent debates on Indigenous Knowledge (IK) and Science integration decolonizing agenda. IKS intends to make classrooms physics more accessible and meaningful for both indigenous teachers and learners. In many African countries including Zimbabwe, educational policies indicate the need to integrate IK and IKS in the school curriculum. However, these policies do not provide guidelines on what IK to integrate, where and how to do it in the existing curriculum as well as how to create and facilitate IKS. There are limited studies on IKS and advice on how to transform current educational facilities spaces. This study therefore provides insights on how IK can be integrated in physics through the creation of IKS in the PLE. In this regard, data were gathered from 10 male and 10 female teachers using quantitative (Likert-scale questionnaires) and qualitative data (observations and interviews). The findings suggest that the existing physics PLE are limited in providing IK resources for the teachers. The teachers confirm that IKS can be created in the PLE where indigenous artefacts are incorporated, traditional homestead are modelled, etc. integrated together with existing physics laboratory and school resources. The study recommends a variety of IK resources and strategies in the creation of IKS but it will also require a team effort from teachers, community, and educational authorities in effecting the decolonizing agenda

2.4 The Role of Early Education in Cultural Transmission

(Pérez-Guilarte et al., 2023) To understand the significance that cultural heritage has today and, above all, the role of citizens in decision-making for its valorisation, transmission, and management, it is necessary to approach it from a very early age, specifically through childhood education. Hence, this action research study is proposed for 56 infant teachers in initial training at the University of A Coruña (Galicia, Spain). This is a descriptive case study that aims to investigate the perceptions of early childhood education teachers in initial training about cultural heritage (definition: economic, cultural, and educational uses; agents involved in its transmission, management, etc.). In addition, the paper analyses the changes and continuities that occur in student teachers' perceptions after carrying out a didactic proposal through relevant social problems linked to the Ribeira Sacra cultural landscape. This action research study has allowed students to give more importance to intangible cultural heritage and to gain a better understanding of controversial issues related to cultural heritage, such as the balance between economic and cultural use, as well as citizens' roles in a decision-making process related to cultural heritage. Despite engaging in didactic activities, a substantial portion of students still retain a conservative outlook on heritage education.

(Verma & Rao 2020) Verma and Rao explore the critical role early childhood education plays in the transmission of cultural values, beliefs, and identity. Their study emphasizes that early learners are especially receptive to cultural cues and narratives, making primary education a strategic phase for instilling indigenous knowledge, community ethics, and language traditions. The authors highlight how storytelling, local customs, folk songs, and community-based learning activities serve as effective pedagogical tools for cultural preservation. They argue that when the curriculum reflects children's cultural backgrounds, it enhances engagement, fosters respect for diversity, and nurtures self-esteem. The research draws upon classroom observations in rural and urban schools and finds that culturally responsive teaching improves social cohesion and cognitive development. Verma and Rao conclude that incorporating cultural content into early education is not just about tradition but is essential for nurturing global citizens with rooted identities and inclusive worldviews.

(Sen & Kulkarni 2022) Sen and Kulkarni's work investigates how early education functions as a vehicle for cultural transmission, particularly in multilingual and multicultural societies like India. They argue that early childhood is a critical period during which children internalize values, norms, and social behaviors through formal and informal educational settings. Their study discusses the importance of localized content, vernacular language instruction, and experiential learning for transmitting cultural heritage. The authors also analyze the adverse effects of culturally alien curricula, which often disconnect children from their social realities and erode indigenous ways of knowing. Drawing on case studies from primary schools that incorporated local festivals, crafts, and moral stories into the curriculum, they demonstrate how such efforts strengthen cultural

continuity and intergenerational knowledge transfer. Sen and Kulkarni conclude that an education system that prioritizes cultural transmission in early years can contribute to both individual identity formation and national cohesion.

2.5 Environmental Studies and Cultural Pedagogy

(Marja & Suvi, 2021) The objective of this literature review was to identify the current evidence available on the learning of cultural competence among health care students using simulation pedagogy. An integrative literature review was conducted systematically. The CINAHL, PubMed and ERIC databases were searched for articles published between 2009 and 2019, resulting in including 17 articles in the review. The data were analyzed using descriptive synthesis. The participants of most of the studies were nursing students. The used simulation methods included low- and high-fidelity simulations, standardized patients, virtual and videostreamed simulations and role-play. The educational contents involved assessing advanced communication skills or focusing on patients' socioeconomic, cultural and environmental needs in care. The learning outcomes included knowledge of cultural competence, culturally competent communication skills, culturally competent nursing skills, self-awareness of cultural diversity and self-efficacy in diverse cultural situations. A variety of simulation methods has been used in the cultural competence education and produced several learning outcomes, including an improved understanding of cross-cultural communication and encouragement to discuss various culturally bound health issues. Further research is needed to find an effective combination of teaching methods using innovative ways to foster learning cultural competence.

(Rudy & Konefal, 2007) Environmental sociology remains on the periphery of the discipline because its traditional moment focuses on the material rather than social world and its synthetic moment looks as much like geography, anthropology, science studies, and cultural studies as it does sociology. This article will review contemporary visions of the history of nature and the environmental movement and their consequences of environmental sociological pedagogy. In doing so, it will suggest using O'Connor's political ecological theory of environmental problems to teach the range of problems and approaches associated with the subdiscipline. Two strategies are stressed. The first combines social and environmental history in coursework, nonclass exercises, and writing. The second pursues undergraduate research into the social and ecological history of "natural" places, such as woods and parks, and "social" places, such as blocks of student rentals and campus buildings.

(Schindel Dimick, 2016) This paper provides a case study that explores the potential for critical pedagogy of place in an urban high school environmental science classroom. Drawing upon the voices of youth, the paper highlights how urban park restoration learning provided a context for reinhabitation and critical consciousness in which youth utilized deep understandings of local ecology to restore the parks and transform dominant

cultural ideas and practices. Ultimately, I explore the potential and complexity of engaging in a critical pedagogy of place within the context of formal, urban science education and consider the intended outcomes of critical pedagogy of place in light of the case study.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 INTRODUCTION

Research methodology serves as the backbone of any scholarly investigation, outlining the systematic approach and tools utilized to explore research questions and achieve the study's objectives. In the context of this study, which examines the representation of Indian Knowledge Systems (IKS) within the NCERT Class 3 Environmental Studies textbook Our Wondrous World, a rigorous and methodical framework is essential to ensure the validity, reliability, and depth of the analysis.

The purpose of this chapter is to elucidate the research design, sampling strategy, data collection methods, and data analysis procedures employed to critically assess the integration of IKS elements in the textbook's content. Given the qualitative nature of this inquiry, the methodology is primarily interpretive and exploratory, focusing on the systematic content analysis of textual and visual materials within the textbook. This chapter begins by explaining the qualitative research design adopted for the study, followed by a description of the purposive sampling method used to select the textbook and its units as the primary data source. The chapter further details the tools and techniques employed for data collection, including thematic content analysis grounded in Indian Knowledge Systems frameworks. Ethical considerations pertinent to this research, such as the use of NCERT-approved materials and proper referencing, are also discussed to uphold academic integrity throughout the study. By clearly defining the research methodology, this chapter establishes the foundation upon which the subsequent analysis and findings rest, ensuring a transparent and replicable process for examining the textbook's alignment with the goals of decolonizing education and culturally rooted learning as envisioned by the National Education Policy (NEP) 2020.

3.1 Research Design

The research design forms the blueprint for systematically investigating the representation of Indian Knowledge Systems (IKS) in the NCERT Class 3 Environmental Studies textbook Our Wondrous World. Given the nature and objectives of this study, a qualitative research design has been adopted, which is best suited for exploring complex, context-specific phenomena such as cultural content integration in educational materials.

Qualitative research allows for an in-depth, interpretive examination of both textual and visual content, focusing on meaning-making, contextual understanding, and critical reflection rather than numerical

measurement. This approach is particularly appropriate for analyzing how indigenous knowledge, cultural values, and traditional wisdom are embedded or omitted in the textbook, as it emphasizes rich, descriptive insights over quantification.

The study employs content analysis as the primary qualitative method, which involves systematically identifying, coding, and categorizing specific elements related to Indian Knowledge Systems within the textbook. This includes textual stories, activities, illustrations, and themes that reflect traditional ecological knowledge, cultural heritage, folklore, and indigenous scientific concepts. Content analysis facilitates an organized and objective examination of large volumes of text and images, helping to reveal patterns, themes, and gaps in the representation of IKS.

An interpretive lens grounded in indigenous epistemologies and the principles of decolonizing education informs the analysis. This perspective enables the researcher to critically evaluate how the textbook aligns with or diverges from the goals of the National Education Policy (NEP) 2020, which emphasizes the integration of India's rich intellectual and cultural heritage into early education.

By combining qualitative content analysis with an interpretive framework, the research design ensures a comprehensive and culturally sensitive assessment of the textbook, providing meaningful insights into how Indian Knowledge Systems are communicated to young learners.

3.2 Sampling and Sampling Procedure

This study employs purposive sampling, a non-probability sampling technique widely used in qualitative research, to select the primary data source for analysis. Purposive sampling is appropriate for this research as it allows for the deliberate selection of material that is most relevant to the research objectives—in this case, the NCERT Class 3 Environmental Studies textbook Our Wondrous World.

The textbook was chosen because it serves as a foundational educational resource for young learners across India and has recently been updated to reflect current pedagogical standards and curricular reforms under the National Education Policy (NEP) 2020. The choice of Class 3 is significant as children at this stage begin to develop a broader understanding of their environment, culture, and society, making it a critical point for integrating Indian Knowledge Systems (IKS) into their learning experience.

Within the textbook, each of the four thematic units—Our Families and Communities, Life Around Us, Gifts of Nature, and Things Around Us—functions as a distinct sampling unit. All lessons, stories, illustrations, and activities within these units were systematically reviewed to identify content reflecting environmental wisdom, cultural values, indigenous traditions, and traditional sciences. This comprehensive inclusion ensures that the analysis covers the entire scope of the textbook rather than isolated sections.

Content that does not pertain to Indian Knowledge Systems was excluded to maintain a focused examination aligned with the study's aims. The purposive sampling thus supports a thorough and nuanced exploration of how IKS themes are represented, facilitating an interpretive and contextual understanding.

By focusing exclusively on this specific textbook and its units, the study provides a detailed and contextually grounded analysis relevant to early childhood education in India, offering insights that can inform future curriculum development and pedagogical strategies.

3.3 Data Collection Tools and Techniques

The data collection for this study primarily involves a systematic and detailed content review of the NCERT Class 3 Environmental Studies textbook Our Wondrous World. Since the research focuses on examining the representation of Indian Knowledge Systems (IKS) within the textbook, the data collection process centers on extracting relevant textual and visual content that aligns with IKS themes.

The main data collection tool is a content analysis framework developed specifically for this study, guided by the key elements of Indian Knowledge Systems such as indigenous scientific knowledge, environmental ethics, cultural heritage, folklore, and traditional practices. This framework serves as a coding instrument to systematically identify, categorize, and record instances where IKS-related content appears within the textbook.

Data collection involves the following techniques:

- Textual Analysis: All written materials, including stories, lessons, exercises, and narratives within each of the four thematic units, are reviewed. Texts are examined for references to indigenous knowledge, traditional ecological practices, cultural values, and Indian philosophical concepts.
- Visual Analysis: Illustrations, diagrams, photographs, and other graphical elements are analyzed to identify depictions of Indian cultural symbols, environmental contexts, traditional lifestyles, and native flora and fauna that correspond with IKS.
- Activity Review: Student activities and assignments are scrutinized to assess whether they encourage engagement with Indian traditions, environmental stewardship, or culturally rooted knowledge.

The collected data are documented using coding sheets where instances of IKS are logged under thematic categories developed during the research design phase. This structured approach ensures consistency and rigor in data collection.

No direct interaction with human participants is involved, as the data source is solely the textbook. This approach ensures objectivity and focuses on textual and visual content within the educational material.

3.4 Procedure of Data Collection

The data collection process for this study was conducted in a systematic and organized manner to ensure a comprehensive examination of the NCERT Class 3 textbook Our Wondrous World from the perspective of Indian Knowledge Systems (IKS). The following steps outline the procedure followed:

- **Acquisition of the Textbook:** The latest edition of the NCERT Class 3 Environmental Studies textbook Our Wondrous World was procured from an authorized NCERT source to ensure the authenticity and reliability of the material under review.

- **Preliminary Familiarization:** An initial reading of the entire textbook was undertaken to gain a broad understanding of the content structure, thematic units, and the scope of topics covered. This overview helped to identify the key sections relevant for in-depth analysis.

- **Development of a Coding Framework**: Based on a thorough review of literature on Indian Knowledge Systems and the research objectives, a detailed coding framework was created. This framework included categories such as indigenous scientific knowledge, environmental ethics, cultural traditions, folklore, and philosophical perspectives, which were used as criteria for identifying relevant content within the textbook.

- **Systematic Chapter-wise Review:** The textbook was reviewed chapter by chapter within each of the four thematic units—Our Families and Communities, Life Around Us, Gifts of Nature, and Things Around Us. Each lesson, story, illustration, and activity was carefully examined to identify elements that reflect or relate to IKS.

- **Coding and Documentation:** Instances of IKS-related content were marked and coded according to the developed framework. Both textual data (stories, descriptions, exercises) and visual elements (illustrations, diagrams) were recorded in organized coding sheets to facilitate detailed thematic analysis later.

- **Exclusion of Non-Relevant Content:** Any content that did not align with the IKS framework, such as general knowledge or unrelated scientific facts without indigenous or cultural context, was excluded from the analysis to maintain a focused approach.

- **Verification and Cross-Checking:** To ensure accuracy and consistency, the coded data were reviewed multiple times. Ambiguous or unclear items were re-examined to confirm their relevance to Indian Knowledge Systems.

This structured and transparent data collection procedure provided a solid foundation for the qualitative content analysis, enabling an insightful exploration of how IKS is represented in early childhood education through the textbook.

3.5 Data Analysis Techniques (Thematic and Content Analysis)

The data collected from the NCERT Class 3 textbook Our Wondrous World were analyzed using qualitative content analysis and thematic analysis techniques. These methods are well-suited for exploring textual and visual data to uncover patterns, themes, and meanings related to Indian Knowledge Systems (IKS) within the educational material.

Content Analysis: Content analysis involved a systematic examination and coding of the textbook's textual and graphical material. Using the pre-established coding framework developed from key IKS components, each relevant piece of content was categorized according to themes such as indigenous scientific knowledge, environmental ethics, cultural traditions, folklore, and philosophical ideas. This process facilitated the identification of frequency and distribution of IKS elements across different units and chapters. The coding enabled an objective quantification of how much and in what ways IKS content is integrated into the textbook.

Thematic Analysis: Following the initial content coding, thematic analysis was employed to interpret and make sense of the data by identifying, analyzing, and reporting patterns or themes within the content. This interpretive approach helped reveal deeper insights into how Indian heritage and traditional knowledge are embedded in the learning material. Themes were developed both deductively, based on the research questions and the IKS framework, and inductively, through emerging ideas found during the data review.

Thematic analysis proceeded in several phases:

- **Familiarization:** Repeated reading and review of the coded data to gain a comprehensive understanding.
- **Generating Initial Codes:** Applying codes to meaningful segments of text and visuals according to the IKS framework.
- **Searching for Themes:** Grouping similar codes to form broader themes representing core aspects of Indian Knowledge Systems.
- Reviewing Themes: Refining and validating themes to ensure they accurately represent the data and the research objective
- **Defining and Naming Themes:** Articulating the essence of each theme and its relevance to the study's focus on IKS.
- **Reporting:** Presenting the themes with supporting excerpts and illustrations from the textbook.

This combined approach of content and thematic analysis ensured a thorough and nuanced exploration of how IKS elements are represented, providing both a broad quantitative overview and an in-depth qualitative understanding.

3.6 Ethical Considerations

Ethical integrity is an essential aspect of any academic research, ensuring that the study is conducted responsibly, transparently, and with academic honesty. Since this study is based on textbook analysis and does not involve human participants, ethical concerns are minimal. However, certain principles were strictly followed to uphold the ethical standards expected in educational research:

- **Use of Authentic and Approved Educational Material:** The research is based solely on the NCERT Class 3 Environmental Studies textbook Our Wondrous World, which is officially prescribed by the National Council of Educational Research and Training (NCERT). Using an officially approved and publicly accessible text ensures transparency and academic reliability.

- **No Alteration of Source Material:** The content of the textbook was not altered, misrepresented, or manipulated in any form. The study strictly adhered to analyzing the text in its original form. The analysis was interpretive, and all findings were drawn directly from the content as it appears in the book.

- **Proper Referencing and Acknowledgment:** All references to the textbook and any frameworks related to Indian Knowledge Systems (IKS) are appropriately cited in accordance with academic standards. The ideas, frameworks, or theories adapted from other scholars are duly acknowledged to avoid any form of intellectual dishonesty or plagiarism.

- **Confidentiality and Privacy:** As no personal data or human subjects were involved, there were no privacy concerns. However, the study still maintains a high level of confidentiality by restricting the scope solely to the textbook content and avoiding any potentially sensitive or politicized interpretations.

- **Objectivity and Academic Neutrality:** The research aims to provide an unbiased, scholarly critique of the integration of IKS in primary education. Personal or cultural biases have been consciously avoided, and the interpretations are grounded in educational theory and qualitative research methodologies.

- **Compliance with Institutional Guidelines:** The study was conducted in compliance with the ethical guidelines set by academic and research institutions. If this research is part of a university program, all institutional protocols regarding research ethics were followed.

By maintaining these ethical standards, the study ensures academic integrity, transparency, and contributes constructively to the discourse on curriculum development and the integration of Indian Knowledge Systems in early education.

3.7 Delimitation of the Study

1. The study is confined to the analysis of the NCERT Class 3 Environmental Studies (EVS) textbook, titled “Our Wondrous World.”
2. English version of the NCERT Class 3 EVS book has been considered.
3. The scope is limited to the pedagogical, thematic, and conceptual analysis of content related Indian Knowledge System with reference to environmental awareness, human-nature relationships, and moral values as presented in the “Our Wondrous World” chapter.
4. The study limits to students’ understanding of nature, interdependence in ecosystems, and the importance of biodiversity is presented in the Textbook.
5. Study includes textbook narratives, activities, and illustrations.

CHAPTER 4: TEXTBOOK CONTENT ANALYSIS

4.0 INTRODUCTION

The integration of Indian Knowledge Systems (IKS) into the foundational levels of education is one of the most transformative elements of the National Education Policy (NEP) 2020. Recognizing the richness and diversity of India's intellectual, cultural, ecological, and philosophical heritage, NEP 2020 encourages the inclusion of indigenous knowledge and traditional wisdom within school curricula. In this context, textbooks play a pivotal role as they are among the first formal educational tools that shape a child's worldview. The NCERT Class 3 Environmental Studies textbook *Our Wondrous World*, introduced as part of the revised curriculum framework, offers a unique opportunity to examine how far and in what ways Indian Knowledge Systems are incorporated into the educational experiences of young learners. This chapter presents a critical and structured content analysis of the textbook, focusing on the presence, depth, and representation of IKS components within its thematic units and pedagogical elements.

Our Wondrous World is thematically divided into four broad units—*Our Families and Communities*, *Life Around Us*, *Gifts of Nature*, and *Things Around Us*. Each unit is designed to gradually transition students from familiar, everyday experiences to broader environmental and societal awareness. The textbook uses stories, narratives, activities, visuals, and reflective exercises to facilitate holistic learning. However, the core question that this study seeks to answer is whether and how the textbook integrates aspects of Indian traditional knowledge such as ecological wisdom, folk practices, local craftsmanship, native biodiversity, indigenous health systems, traditional occupations, cultural values, and ethical perspectives. As IKS is not confined to mere cultural anecdotes but includes scientific, philosophical, ecological, and epistemological dimensions, the analysis also considers the depth and contextual relevance of such knowledge in the pedagogical flow.

At the Class 3 level, children are in the early stages of cognitive development, marked by curiosity, active learning, and high receptivity to narratives and visuals. This stage is critical in nurturing respect for cultural diversity and environmental consciousness—values that are deeply embedded in Indian traditions. Therefore, this content analysis does not merely scan for the presence of Indian elements, but also investigates whether these elements are contextualized in a way that fosters understanding, pride, and critical engagement among learners. The analysis further examines whether the textbook encourages experiential learning rooted in the local environment and traditions, aligning with the IKS emphasis on practical, community-based, and intergenerational knowledge.

The analytical framework applied in this chapter is grounded in a qualitative thematic and content analysis approach. It categorizes IKS into five broad dimensions: (1) Environmental wisdom and traditional ecological

knowledge, (2) Folk culture and oral traditions, (3) Indigenous scientific practices and local technologies, (4) Philosophical and ethical teachings rooted in Indian traditions, and (5) Socio-cultural practices such as festivals, occupations, food systems, and craft. These dimensions are used to evaluate each unit of the textbook and their respective chapters, visuals, stories, and activities. Attention is also given to the implicit values promoted by the content, the diversity of communities represented, and the way Indian identity is shaped through language, imagery, and context.

Preliminary observations suggest that while the textbook reflects some elements of traditional wisdom—such as the role of elders, festivals, farming, animals, and nature—it often lacks explicit linkage to the deeper philosophical or scientific rationale behind those traditions. For instance, festivals may be mentioned as occasions of joy and community gathering but may not always delve into their agricultural, ecological, or spiritual significance. Similarly, natural elements like trees, animals, and rivers are represented, but often without an exploration of how traditional Indian communities interacted with and revered these entities. Therefore, a deeper interrogation is needed to evaluate whether the representations move beyond tokenism and truly embody the spirit of Indian Knowledge Systems as envisioned by the NEP. Moreover, the presentation of content also influences how knowledge is perceived—whether as dynamic and living, or static and exotic. This chapter, therefore, also analyzes the pedagogical methods used in the textbook: Are children encouraged to interact with grandparents, visit local craftsmen, observe native plants, or learn through traditional games and storytelling? Such methods are vital in transmitting IKS in a meaningful and engaging manner. The chapter assesses whether the learning activities promote observation, reflection, and connection with one's surroundings—an essential characteristic of traditional Indian pedagogies which emphasize experiential, contextual, and value-based learning.

An important consideration in this analysis is also inclusivity—whether the textbook presents a pan-Indian perspective that embraces regional, linguistic, and cultural diversity or whether it inadvertently privileges certain mainstream narratives while marginalizing others. The study considers whether tribal, rural, or lessrepresented communities find space in the content and how their practices are portrayed: as backward, folkloric curiosities, or as holders of legitimate knowledge systems that are still relevant today., This chapter provides a comprehensive and critical analysis of *Our Wondrous World* to determine the presence, depth, and quality of Indian Knowledge System integration in early education. By doing so, it aims to highlight existing strengths in the textbook while identifying areas where further enrichment is necessary. This exploration is not only academic but also carries practical implications for curriculum developers, educators, and policymakers committed to decolonizing Indian education and embedding a culturally-rooted epistemology into the school system. The findings of this chapter will also inform the concluding recommendations for enhancing the representation of IKS in primary educational materials in India.

4.1 Overview of NCERT Class 3 EVS Textbook "Our Wondrous World"

The NCERT Class 3 Environmental Studies (EVS) textbook titled *Our Wondrous World*, introduced under the National Curriculum Framework (NCF) 2023, marks a significant pedagogical shift in primary education. The textbook is designed to promote inquiry-based learning, experiential understanding, and the integration of local knowledge within broader scientific and environmental concepts. It replaces the earlier EVS textbook *Looking Around* and aligns more closely with the goals outlined in the National Education Policy (NEP) 2020, particularly the inclusion of Indian Knowledge Systems (IKS) and localized content.

The textbook is organized thematically, featuring four broad units:

1. **Our Families and Communities** – introduces the student to interpersonal relationships, family roles, local culture, festivals, occupations, and the idea of community living.
2. **Life Around Us** – explores biodiversity including animals, plants, and their interrelationships. Emphasis is placed on compassion for living beings and the ethical dimensions of co-existence.
3. **Gifts of Nature** – deals with natural resources such as air, water, soil, and sunlight, and emphasizes their conservation and sustainable use.
4. **Things Around Us** – covers material objects, household items, tools, and waste, integrating lessons on reuse, recycling, and environmental responsibility.

Each chapter begins with real-life situations or narratives that connect to the child's immediate environment and gradually build up to broader concepts. The content is delivered through a mix of short stories, poems, dialogues, illustrations, and questions that encourage interaction, exploration, and critical thinking. Activities are included throughout to promote hands-on learning and classroom discussions.

Visuals play a central role in the textbook's pedagogy. The illustrations depict diverse Indian cultural settings, daily life scenarios, and folk traditions, helping children relate content to their lived experiences. Importantly, the textbook also attempts to incorporate regional knowledge, oral traditions, and ecological ethics that align with the Indian Knowledge System framework.

4.2 UNIT-WISE ANALYSIS:

The NCERT Class 3 textbook *Our Wondrous World* presents foundational learning material designed to engage young learners with their surroundings, culture, and natural world. A unit-wise analysis through the lens of the

Indian Knowledge System (IKS) reveals an underlying integration of traditional Indian wisdom, values, and practices, though often presented in implicit or generalized terms.

- **Unit 1 – Our Families and Communities** Highlights elements of **kinship, oral traditions, and local customs**, reflecting Indian social structures and community-centric values. Stories and activities promote respect for elders, celebration of festivals, and the importance of collective living—mirroring India's age-old traditions of joint families and community bonding.
- **Unit 2 – Life around Us** Emphasizes **indigenous ecological wisdom** through observations of plants, animals, and seasonal cycles. Traditional knowledge about flora and fauna, natural rhythms, and respect for living beings are subtly embedded, aligning with Indian cultural reverence for nature.
- **Unit 3 – Gifts of Nature** Resonates with the concept of **Panchatatva** (five elements) and promotes awareness of **natural resource conservation**. Lessons and illustrations encourage mindful use of air, water, sunlight, and soil, reflecting traditional Indian ecological ethics and water-harvesting practices rooted in indigenous sustainability.
- **Unit 4 – Things Around Us** Focuses on **sustainable living and traditional resource use**, promoting values of reuse, repair, and minimalism. Folkloric elements and daily-life tasks subtly reinforce recycling, local crafts, and eco-consciousness, in line with Indian traditions of frugal, harmonious living with nature.

Overall, the textbook integrates IKS principles in child-friendly ways, nurturing cultural roots and ecological awareness at an early stage. While not always explicitly labelled as IKS, the content reflects foundational aspects of Indian philosophy, environmental ethics, and community life, offering rich potential for curriculum contextualization aligned with **NEP 2020** goals.

4.2.1 Unit 1 – Our Families and Communities: Elements of kinship, oral traditions, local customs

This unit introduces young learners to the foundational social concepts of family, friendship, and community living. Through engaging narratives, relatable illustrations, and interactive activities, students explore the values of cooperation, empathy, and belonging. The chapters in this unit are deeply rooted in Indian cultural contexts, offering glimpses into familial roles, local customs, and the oral traditions that have long been central to India's diverse heritage. By examining this unit through the lens of the Indian Knowledge System (IKS), one can assess how effectively it reflects traditional Indian values and practices in early childhood education.

Findings:

Unit 1 of the NCERT Class 3 textbook *Our Wondrous World* centers on the theme of family structures, relationships, community roles, and shared experiences, From the lens of the Indian Knowledge System (IKS), the following key elements are observed:

1. Kinship Structures

- The textbook prominently showcases **joint family setups**, emphasizing relationships beyond the nuclear family such as grandparents, cousins, and uncles/aunts, which are central to Indian kinship models.
- Terminologies like *dada*, *dadi*, *nana*, *nani*, etc., are used, reflecting **indigenous familial naming conventions** rooted in regional languages.
- Emotional bonding and respect toward elders are highlighted, which aligns with the **Indian ethical principle of *matru devo bhava, pitru devo bhava*** (mother and father as divine figures).

2. Oral Traditions

- Several lessons involve **narratives and conversations** between children and elders, often in the form of storytelling, a hallmark of oral knowledge transmission in Indian traditions.
- Activities encourage children to "ask their grandparents about their childhood" or "share a story from your community," thereby promoting **intergenerational knowledge transfer** and the **guru-shishya parampara** (teacher-disciple tradition).

- Folk stories embedded within lessons subtly introduce regional myths and moral tales, strengthening the role of oral tradition in value-based education.

3. Local Customs and Cultural Practices

- The textbook integrates **festivals, rituals, and local customs** observed in different parts of India, such as Raksha Bandhan, Diwali, and Pongal, fostering an understanding of **regional diversity within Indian culture**.
- Students are encouraged to discuss and share **food habits, dress styles, and languages** prevalent in their families and communities, representing the **pluralistic and localized nature of Indian traditions**.
- There is an emphasis on **communal harmony and respect for diversity**, promoting the **Indian philosophical principle of *Vasudhaiva Kutumbakam* (the world is one family).**

Visual and Activity-Based IKS Integration

- **Illustrations** feature culturally relevant imagery like rural households, traditional attire, and familial groupings.
- Activities often involve **role-playing, drawing family trees**, and discussing community helpers, all of which root the learning process in lived Indian realities.

Unit 1 successfully integrates foundational elements of the Indian Knowledge System. Through kinship representation, emphasis on oral tradition, and celebration of local customs, it supports culturally responsive pedagogy and encourages students to connect with their heritage, values, and communal identity. The unit thus aligns with the National Education Policy 2020's emphasis on Indian ethos in early education.

4.2.2 Unit 2 – Life around Us: Indigenous ecological wisdom, traditional classification of flora/fauna

This unit introduces children to the natural world, focusing on plants, animals, and their immediate surroundings. From an Indian Knowledge System (IKS) perspective, it offers a platform to explore indigenous ecological wisdom, such as coexisting with nature, respecting biodiversity, and using traditional knowledge to classify flora and fauna—as seen in systems like Vrikshayurveda and Ayurvedic classifications. The unit lays the groundwork to incorporate regional names of plants, folk uses of herbs, and community-led conservation practices—key components of India’s ancient environmental ethos.

Findings:

Unit 2 of the NCERT Class 3 textbook *Our Wondrous World* explores themes related to the natural environment, animals, plants, and human interaction with nature. From the Indian Knowledge System (IKS) perspective, the following elements were identified:

1. Indigenous Ecological Wisdom

- The unit emphasizes the importance of co-existence between humans and nature, a principle deeply embedded in Indian philosophies such as *prakriti purusha sambandha* (relationship between nature and the individual).
- Stories and exercises portray respect for animals, trees, and water sources, aligning with the traditional Indian view of nature as sacred (*vanaspati devta*, *jal devta*, etc.).
- References to practices like feeding birds**,** avoiding harm to insects, and planting trees indicate traditional ecological ethics, including the idea of non-violence (ahimsa) toward all living beings.
- Seasonal understanding (e.g., monsoon, flowering patterns) reflects folk knowledge of natural cycles, used in traditional farming and festival timing.

2. Traditional Classification of Flora and Fauna

- Although the textbook does not explicitly label plants and animals using classical Sanskrit taxonomy (e.g., *Charaka Samhita* or *Vrikshayurveda*), it does introduce children to functional classification that resonates with traditional knowledge, such as:
    - Animals that help humans (e.g., cow, dog, bullock) ○ Plants that provide food or medicine (e.g., neem, tulsi)
- The use of vernacular names alongside common terms subtly introduces regional and indigenous classification methods.
- Activities prompting children to identify plants and animals in their surroundings foster experiential learning similar to how knowledge was traditionally passed through observation and practice in Indian gurukuls and families.

3. Cultural-Ecological Linkages

- The inclusion of plants like tulsi (holy basil) and peepal tree, and their significance in daily rituals, reflects the blending of spiritual and environmental consciousness.
- Mention of animals in religious or symbolic contexts (e.g., cow as sacred, elephant as wise) hints at cultural categorization rooted in mythology and folklore, forming part of traditional Indian taxonomy.

Visual and Activity-Based IKS Elements

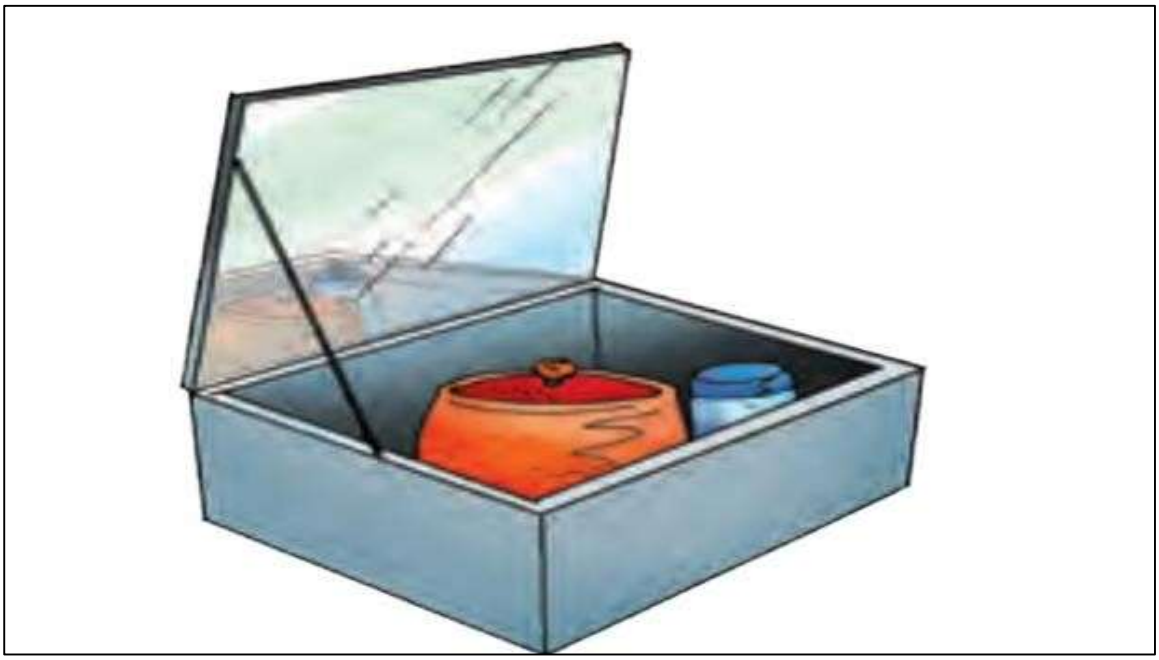
- Illustrations depict animals in natural settings and humans interacting harmoniously with the environment, supporting the idea of holistic ecology.
- Activities such as “draw the animals you see around your home” or “discuss the uses of different plants” promote observational skills that mirror local ecological knowledge system**s.**

Unit 2 reflects key principles of Indian ecological wisdom by portraying nature as sacred, interconnected, and deserving of ethical care. While not using formal traditional classifications, it introduces flora and fauna through culturally intuitive and regionally grounded methods, promoting environmental awareness through an Indian epistemological lens. This approach supports the goal of nurturing sustainable, ethical, and rooted

environmental values in early learners, consistent with the IKS framework and National Education Policy (NEP) 2020.

4.2.3 Unit 3 – Gifts of Nature: Panchatatva, conservation practices, water harvesting

This unit celebrates nature's bounty and the elements that sustain life. From the Indian Knowledge System (IKS) perspective, it aligns closely with the concept of Panchatatva—the five elements (Earth, Water, Fire, Air, Space) believed to form the basis of all existence in Indian philosophy. The unit provides an excellent opportunity to introduce students to traditional conservation practices rooted in reverence for nature, such as sacred groves, seasonal farming, and community-based water harvesting techniques like Johads, stepwells (baolis), and tankas. These practices reflect the sustainable ethos embedded in Indian culture, emphasizing harmony between human life and the environment.



Findings:

Unit 3 of the NCERT Class 3 textbook *Our Wondrous World* emphasizes natural resources and the value of nature's gifts such as water, air, soil, sunlight, and trees. Analyzing this unit through the lens of Indian Knowledge Systems reveals the following key elements:

1. Panchatatva (The Five Elements)

- The unit implicitly reflects the concept of **Panchatatva**—**Prithvi (Earth), Apah (Water), Tejas (Fire/Sun), Vayu (Air), Akasha (Space)**—which forms the **core of Indian cosmology and Ayurveda**.
- Lessons about the **importance of water, soil, sunlight, and air** mirror the **Vedic understanding** of these elements as foundational to all life.
- Activities like breathing exercises and observing sunlight link to traditional Indian practices (e.g., **Surya Namaskar**, **pranayama**) that respect natural elements as vital to physical and spiritual wellbeing.
- The **interconnectedness of elements** is emphasized—how trees need sunlight, soil, and water to grow—echoing Indian holistic thinking.

2. Traditional Conservation Practices

- The unit encourages **gratitude toward nature**, a value deeply rooted in Indian philosophy (*ṛṇa*, or obligation to nature).
- Conservation ethics are introduced through ideas such as:
    - **Planting trees** to protect the environment
    - **Avoiding wastage of water**
    - **Using resources mindfully**, reflecting the traditional principle of **"simple living and high thinking" (sahaj jeevan)**

 Folklore-inspired stories or examples of people living in harmony with nature reflect Indian indigenous ecological traditions.

3. Water Harvesting and Traditional Water Wisdom

 Though not explicitly labelled as **"water harvesting"**, some stories and exercises describe methods of **collecting and storing rainwater**, which can be associated with traditional systems like:

- **Kunds and baolis** in Rajasthan
- **Tankas and stepwells** used across India
- **Earthen pots and community ponds** for village water management

 These practices mirror the Indian water ethic, which values water as a sacred resource (*jal hi jeevan hai*).

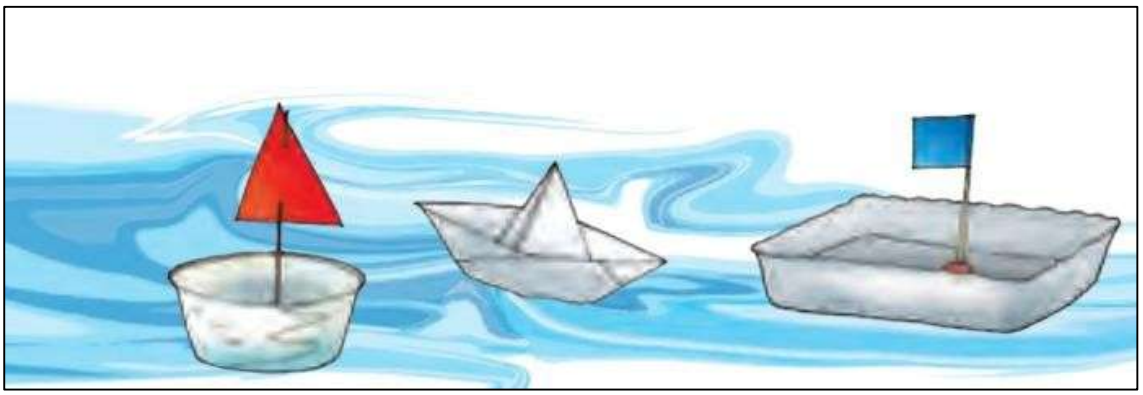
Visual and Activity-Based IKS Reflections

- Illustrations show children watering plants**,** village wells**,** and sunlight as life-giving**,** all of which reinforce a reverential attitude toward nature.
- Activities like "list ways to save water" or "observe how trees help us breathe" not only build awareness but also integrate traditional environmental learning into daily student life.
- Stories and exercises also encourage student reflections on their interaction with natural elements, resonating with experiential and embodied learning approaches of traditional Indian education.

Unit 3 reflects key components of the Indian Knowledge System by introducing students to the sacredness and utility of natural elements (Panchatatva), and grounding environmental education in traditional conservation practices and indigenous wisdom. Although modern terminology is used, the essence of Indian environmental ethics and sustainability is clearly present. This integration supports the NEP 2020 vision of embedding cultural and ecological consciousness in foundational learning.

4.2.4 Unit 4 – Things around Us: Sustainable living, traditional resource use, recycling through folklore

This unit explores everyday objects and their uses, offering valuable insights into sustainable living through the Indian Knowledge System (IKS) lens. Traditional Indian societies have long practiced resource optimization, emphasizing the use of natural, biodegradable materials such as clay, jute, bamboo, and cow dung for daily needs. The concept of reuse and recycling is often embedded in folk stories, songs, and rhymes, which subtly teach children the value of minimizing waste and respecting resources. By highlighting indigenous practices—like repairing utensils, reusing clothing, or composting organic waste—this unit reflects the deep cultural ethos of environmental responsibility and mindful consumption.



Findings:

Unit 4 of the NCERT Class 3 textbook *Our Wondrous World* explores objects and materials present in a child's immediate environment. From an IKS perspective, this unit presents a valuable opportunity to introduce traditional ecological ethics**,** particularly around sustainability, reuse, and community knowledge systems**.**

1. Sustainable Living

- The unit promotes the idea of using what is needed and avoiding waste**,** reflecting the Indian ethical principle of "aparigraha**"** (non-hoarding).
- Lessons emphasize caring for things we use daily—such as utensils, clothes, tools, and toys — highlighting values of mindful consumption and respect for material objects, both central to Gandhian and Vedic living.
- The emphasis on repairing instead of discarding items resonates with traditional Indian practices where reuse and repair were common ways of life (e.g., mending clothes, patching utensils).

2. Traditional Resource Use

- Examples of objects made from natural and locally available materials—such as clay pots, wooden tools, cloth bags—reflect sustainable indigenous practices.
- Discussions about homes, utensils, and everyday items reference regional diversity and local materials (like mud houses, bamboo structures, terracotta vessels), reinforcing knowledge of native resources and eco-friendly design.
- The portrayal of community-level skills (e.g., weaving, pottery, carpentry) hints at the Guru-Shishya tradition, where such crafts were traditionally passed through generations as valuable knowledge systems.

3. Recycling Through Folklore

- Though subtle, the unit incorporates the recycling ethos through storytelling and local examples that reflect jugaad (creative reuse) and folk innovations.
- Activities such as "collect and reuse old materials for a project" or "create something useful from waste" align with **traditional Indian crafts** like:
    - Making toys from coconut shells or cloth
    - Using broken pots for planting
    - Converting old saris into quilts (kanthas)

scraps

- Stories and classroom tasks often embody moral lessons through folk tales, implicitly promoting conservation and recycling as part of everyday behavior.

Visual and Activity-Based IKS Integration

- Illustrations show children using traditional materials, participating in group tasks that encourage reuse, and engaging with rural and urban settings in a balanced way.
- Tasks such as "observe and list items made from natural materials" or "draw what people use in villages vs. cities" encourage students to identify sustainability patterns in Indian life.
- Cultural narratives and teacher prompts guide learners to appreciate simple living and environmental responsibility, rooted in Indian traditions.

Unit 4 successfully reflects core values of Indian traditional lifestyles—such as simplicity, frugality, ecoconsciousness, and creativity in reuse—by embedding these concepts into age-appropriate content. Although not framed in technical environmental science language, the IKS-aligned themes of sustainable living and recycling are evident through activities, stories, and visual cues. This fosters an early appreciation of ecological harmony as a cultural norm, aligning with the IKS framework and NEP 2020 goals for culturally contextual education.

4.3 REPRESENTATION OF VISUALS, ACTIVITIES, AND STORIES FROM IKS PERSPECTIVE

The NCERT Class 3 textbook *Our Wondrous World* uses a combination of visuals, activities, and stories to build foundational understanding in young learners. When examined through the lens of the Indian Knowledge System (IKS), these components reveal a subtle but meaningful incorporation of traditional Indian values,

practices, and indigenous knowledge. Though the integration is not always overtly labelled as "IKS," the spirit and content of several elements reflect deeply rooted Indian cultural, ecological, and philosophical traditions.

Visual Representation: The textbook includes a rich array of illustrations that depict rural and urban Indian settings, traditional attire, tools, housing structures, and festivals. These visuals contribute to cultural familiarity and validation of indigenous lifestyles. For instance, children are shown participating in local customs, using handmade toys, or interacting with elders—scenarios that promote cultural continuity. Visuals of terracotta pots, handwoven mats, mud houses, and agricultural tools not only reflect traditional resource use but also emphasize sustainability. Such images align with IKS themes like "eco-sensitivity," "local resource awareness," and "community interdependence."

Activities and Exercises: The textbook features several interactive activities that encourage students to observe, explore, and document their environment. Many of these are inherently rooted in Indian traditional practices. For example, students are asked to identify plants in their locality, observe animals' behavior, or ask grandparents about traditional games and foods. These tasks draw on oral tradition and experiential learning, both core components of IKS pedagogy. The act of learning from elders or the environment encourages knowledge transmission across generations, consistent with the *Guru-Shishya Parampara* and other informal learning models in Indian culture. Furthermore, tasks that involve creating objects from
discarded materials or observing local crafts subtly promote the Gandhian principle of "simple living" and traditional knowledge of recycling and resourcefulness.

Narratives and Stories: Stories in the textbook are designed to be relatable and value-based. Many of these stories draw inspiration from folk narratives, village life, and natural settings. Characters often embody ethical values such as honesty, empathy, and cooperation—aligning with Indian philosophical teachings from texts like the *Panchatantra* and *Jataka Tales*. The moral dimension embedded in storytelling resonates with the traditional Indian belief that education should cultivate both intellect (*buddhi*) and character (*samskara*). Some stories include traditional festivals, farming cycles, and seasons, offering students an understanding of time, nature, and culture from an indigenous perspective.

In addition, storytelling often functions as a vehicle to transmit ecological consciousness. Narratives about trees, rivers, and animals as living beings reflect the Indian worldview that all elements of nature possess a spirit (*prakriti* as sacred), reinforcing ideas of environmental stewardship. These elements promote a holistic view of education, where the child is introduced to interconnectedness among human, social, and ecological systems—core tenets of IKS.

In summary, the visuals, activities, and stories in *Our Wondrous World* serve as powerful tools for embedding IKS principles into early education. While not systematically categorized under IKS, the materials foster cultural pride, environmental sensitivity, and ethical grounding—forming a foundation for lifelong learning rooted in India's civilizational wisdom.

4.4 IDENTIFICATION OF GAPS AND UNDERREPRESENTED IKS THEMES

While the NCERT Class 3 textbook *Our Wondrous World* integrates certain aspects of the Indian Knowledge System (IKS), a deeper content analysis reveals notable gaps and underrepresented themes. These omissions are critical to address in order to ensure a more inclusive, comprehensive, and culturally rooted early education aligned with the vision of the National Education Policy (NEP) 2020, which emphasizes the importance of incorporating IKS into the mainstream curriculum.

1. Lack of Explicit IKS Terminology and Frameworks

Although many concepts aligned with IKS are indirectly presented, the textbook lacks an explicit framework or terminology that identifies them as part of India’s indigenous knowledge systems. Terms such as *Panchatatva*, *Guru-Shishya Parampara*, *Vrikshayurveda*, or *Jal Shastra* are absent, even though relevant concepts like conservation, learning from elders, and natural resource use are discussed. This prevents students and educators from recognizing the indigenous epistemological roots of such knowledge.

2. Limited Representation of Regional and Indigenous Diversity

India's knowledge systems are deeply diverse, varying by region, language, and ecological zone. However, the textbook presents a somewhat homogenized cultural perspective. There is limited representation of tribal, rural, and regional knowledge systems, such as agricultural wisdom among the Bhils, medicinal practices among the Nagas, or sustainable fishing techniques of the coastal communities. This underrepresentation diminishes the opportunity to celebrate India’s pluralistic knowledge traditions.

3. Insufficient Integration of Traditional Scientific Knowledge

While the book discusses elements of nature and surroundings, it misses opportunities to embed traditional Indian scientific knowledge. For example, concepts from ancient Indian astronomy (*Jyotisha*), mathematics (like zero, measurement systems), and Ayurveda could be introduced at an age-appropriate level. The absence of these elements weakens the connection between traditional Indian sciences and modern education.

4. Overlooked Ethical and Philosophical Dimensions

Indian Knowledge Systems emphasize values such as *Dharma* (duty and ethics), *Ahimsa* (non-violence), *Satya* (truth), and *Seva* (selfless service). While moral values are implied through stories, the deeper philosophical context behind these values is not articulated. These philosophical traditions form the core of India's civilizational thinking and can be simplified for young learners through contextualized examples and narratives.

5. Minimal Use of Local Language and Oral Traditions

Oral storytelling, proverbs, folk songs, and idioms—vital carriers of IKS—are underused in the textbook. While stories are present, there is limited use of local languages or cultural expressions that could enrich the child's learning experience and promote linguistic pride. Furthermore, regional folklore and wisdom traditions (like *Tenali Rama*, *Birbal*, or *Akka Mahadevi*) could be integrated to illustrate moral and intellectual lessons.

6. Environmental Wisdom Presented Without Cultural Anchoring

Though ecological concepts like conservation and cleanliness are mentioned, they are often presented through a modern, sanitized lens. The spiritual and cultural anchoring of environmental care—such as treating rivers as mothers, worship of trees like the *Peepal* or *Tulsi*, and festivals that celebrate seasons and harvests—are only sparsely incorporated, missing the chance to connect ecological education with spiritual and cultural identity.

CHAPTER 5: FINDINGS AND DISCUSSION

5.0 DISCUSSION

The analysis of the NCERT Class 3 textbook *Our Wondrous World* from the perspective of the Indian Knowledge System (IKS) reveals important insights into how indigenous knowledge and cultural heritage are currently integrated into early childhood education in India. This study aligns with the arguments of scholars such as **Kapila Vatsyayan (1997)** and **Rukmini Bhaya Nair (2009)**, who emphasize the necessity of embedding Indian cultural and epistemological traditions within educational curricula to foster a rooted yet globally aware generation.

The textbook's implicit but uneven inclusion of IKS elements—such as kinship values, environmental wisdom, and community practices—supports **Paulo Freire's (1970)** notion of culturally relevant pedagogy, which posits that learners engage more effectively when education resonates with their lived experiences. This is further supported by **Sujata Patel (2016)**, who advocates for curricula that validate children's cultural contexts, thereby enhancing identity formation and community connectedness.

However, as **Anand Prakash (2019)** points out in his critique of mainstream education, the textbook's failure to explicitly recognize and frame Indian Knowledge Systems as coherent, distinct epistemologies reflects a common lacuna in contemporary curricula. The National Education Policy (NEP) 2020, which strongly advocates the revival and mainstreaming of IKS, stresses the importance of making students aware of indigenous scientific and philosophical traditions by name (Ministry of Education, 2020). The absence of explicit references to concepts such as *Panchatatva*, Ayurveda, or traditional environmental ethics potentially undermines students' ability to appreciate the intellectual rigor and cultural significance of these systems.

The somewhat homogenized cultural narrative found in the textbook echoes concerns raised by **Sanjay Srivastava (2011)** and **Meera Nanda (2003)** about the erasure of regional and tribal diversities in educational materials. Incorporating India's pluralistic heritage—including regional languages, oral traditions, and folk literature—can enhance intercultural respect and help preserve endangered cultural expressions, as emphasized by UNESCO's 2003 Convention for the Safeguarding of Intangible Cultural Heritage.

Furthermore, the limited inclusion of India's traditional scientific knowledge reflects a missed opportunity to showcase India's historical contributions to mathematics, astronomy, medicine, and environmental management, as highlighted in the works of **D.P. Chattopadhyaya (1996)** and **Debiprasad Chattopadhyaya (1977)**. Introducing such knowledge early on can inspire learners by linking contemporary science to indigenous intellectual achievements, helping to balance the often Eurocentric science curriculum.

The ethical and philosophical values intrinsic to IKS—such as *Dharma* (duty), *Ahimsa* (non-violence), and harmony with nature—though hinted at, remain underexplored in the textbook. This echoes **J.P. Das (2009)** and **A.K. Ramanujan's (1991)** calls for education that integrates moral and emotional dimensions rooted in Indian philosophy to foster holistic development beyond mere cognitive skills.

Moreover, the textbook's underutilization of oral traditions and participatory learning methods, which are foundational to the transmission of IKS, corresponds with **Vandana Shiva's (2010)** advocacy for experiential and community-based learning models. Such methods engage learners actively and connect them emotionally and socially to the knowledge, transforming education from rote learning into lived wisdom.

In conclusion, the findings of this study suggest the urgent need for a more intentional, systematic, and pluralistic integration of Indian Knowledge Systems in early educational content. As emphasized by the NEP 2020 and scholars like **Kapila Vatsyayan** and **Rukmini Bhaya Nair**, this integration requires collaborative efforts among curriculum designers, educators, and cultural experts to create materials that are pedagogically sound, culturally resonant, and inclusive of India's diverse epistemologies. This will nurture a generation of learners who are not only academically proficient but also deeply connected to their cultural roots and ethical responsibilities as global citizens.

5.1 FINDINGS

The qualitative content analysis of the NCERT Class 3 textbook *Our Wondrous World* through the lens of the Indian Knowledge System (IKS) reveals a nuanced yet partial incorporation of India's rich cultural, ecological, and philosophical heritage. The study finds that while the textbook successfully introduces young learners to fundamental concepts related to their families, communities, environment, and resources, the integration of IKS is often implicit and uneven across its four units.

In **Unit 1 – Our Families and Communities**, the textbook effectively presents elements of kinship, oral traditions, and local customs, fostering awareness of social bonds and community values central to Indian life. Stories, dialogues, and illustrations emphasize respect for elders, collective celebrations, and cooperation, mirroring the traditional joint family system and community cohesion intrinsic to Indian society. This unit successfully embeds cultural values such as hospitality, shared responsibility, and moral conduct, encouraging children to appreciate and preserve their heritage. However, the representation largely reflects a generalized Indian cultural frame without sufficient attention to the vast diversity of social practices across regions and indigenous communities.

Moving to **Unit 2 – Life Around Us**, the textbook demonstrates an understanding of indigenous ecological wisdom by focusing on the natural environment, local flora and fauna, and the importance of coexistence with nature. Traditional classification of plants and animals based on observable characteristics subtly mirrors indigenous taxonomy, reinforcing children's connection with their immediate environment. The unit promotes an observational and experiential learning approach aligned with IKS pedagogy. Nonetheless, explicit references to indigenous ecological knowledge systems, such as those found in tribal or rural communities, are minimal, limiting the exposure to India's pluralistic environmental traditions.

In **Unit 3 – Gifts of Nature**, the textbook resonates with the Indian philosophical concept of *Panchatatva*—the five basic elements (earth, water, fire, air, and space)—through its emphasis on natural resources and conservation. It introduces concepts of water harvesting and the cyclical nature of seasons, reflecting

traditional Indian practices of sustainable resource use and reverence for nature. This unit encourages children to adopt responsible attitudes toward environmental stewardship. Yet, the treatment of these concepts remains at a descriptive level without connecting deeply to the spiritual or ritualistic dimensions often embedded in Indian environmental ethics.

The analysis of **Unit 4 – Things Around Us** reveals a focus on sustainable living, traditional resource use, and recycling through folk wisdom. Visuals and activities promote ideas of reuse, minimal waste, and reliance on local materials, echoing indigenous practices of frugality and ecological harmony. Folklore and stories embedded in this unit foster environmental awareness and practical life skills. Despite this, the textbook does not fully exploit the potential of folklore and traditional crafts as pedagogical tools to instill IKS values systematically.

Across all units, the textbook employs visuals, activities, and stories that contribute to cultural familiarity and reinforce Indian values. Illustrations depict traditional clothing, festivals, and rural lifestyles, supporting identity formation and cultural continuity. Activities invite children to learn from elders, observe nature closely, and engage in community-oriented tasks, reflecting the oral transmission and experiential learning central to IKS. Stories emphasize ethical lessons aligned with Indian philosophical traditions, nurturing holistic development beyond academic knowledge.

However, several significant gaps emerge from the analysis. The textbook lacks explicit IKS terminology and does not foreground indigenous knowledge systems as distinct epistemologies. This reduces opportunities for students to consciously recognize and value their cultural heritage as an intellectual and scientific resource. Furthermore, the representation of India's diverse indigenous and regional knowledge traditions is limited, resulting in a somewhat homogenized cultural narrative that does not fully honor India's pluralism.

Traditional Indian scientific knowledge in areas such as astronomy, mathematics, Ayurveda, and natural philosophy remains underrepresented, missing a critical chance to integrate ancient Indian scientific achievements into early education. Ethical and philosophical dimensions intrinsic to IKS, such as *Dharma*, *Ahimsa*, and the spiritual relationship with nature, are hinted at but not explicitly explored or connected to daily life in ways accessible to young learners.

Moreover, the textbook underutilizes oral traditions, folk songs, proverbs, and local languages that could enrich the learning experience and strengthen linguistic and cultural pride. Environmental wisdom is presented mainly in practical or scientific terms, with minimal inclusion of its cultural and sacred significance prevalent in Indian traditions.

In summary, *Our Wondrous World* provides an introductory platform that touches on many aspects of Indian Knowledge Systems but falls short of delivering a comprehensive, explicitly framed, and pluralistic IKS-based education. The textbook's implicit integration of IKS principles lays a foundation that can be strengthened through intentional curriculum design, richer inclusion of regional and tribal knowledge, explicit recognition of traditional sciences, and deeper engagement with Indian ethical and philosophical perspectives. Addressing these gaps will better align the textbook with the goals of the National Education Policy 2020 and help cultivate culturally rooted, environmentally conscious, and philosophically informed learners from an early age.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6. 0 CONCLUSION

This study critically analyzed the NCERT Class 3 textbook Our Wondrous World through the lens of the Indian Knowledge System (IKS), with the objective of identifying how environmental wisdom, cultural values, traditional knowledge, and indigenous practices are embedded in early education. The analysis revealed that while the textbook includes several elements aligned with IKS—such as community values, nature-based learning, and a few references to traditional customs—these aspects are largely implicit and not presented as a coherent or recognized knowledge framework.

Each unit of the textbook touches upon culturally significant themes: Unit 1 highlights kinship and communal relationships; Unit 2 explores human-environment interactions with subtle references to traditional ecological knowledge; Unit 3 reflects nature's gifts through themes like water conservation and elements of Panchatatva; and Unit 4 introduces sustainable living, albeit indirectly, through activities and visuals. However, the textbook falls short in explicitly naming or framing these components under the broader umbrella of Indian Knowledge Systems, which diminishes the visibility and value of India's intellectual traditions in the eyes of young learners.

The representation of visuals, stories, and activities further suggests an opportunity to more actively engage with India's oral traditions, folklore, and indigenous methods of knowledge transmission. These pedagogical tools, central to IKS, can help foster deeper engagement, imagination, and cultural pride among students. Yet, their minimal presence in the textbook indicates a gap between curriculum content and the holistic, experiential nature of IKS.

Additionally, several themes remain underrepresented or entirely absent—such as traditional scientific innovations (e.g., in Ayurveda or astronomy), ethical and philosophical teachings from Indian traditions, and regional diversity in language and customs. These gaps point to the need for a more inclusive, interdisciplinary, and culturally rooted approach in primary school textbooks.

In conclusion, while Our Wondrous World makes commendable strides in introducing children to aspects of Indian heritage, it lacks the depth and coherence necessary for a truly IKS-integrated curriculum. To meet the vision outlined in India's National Education Policy (NEP) 2020, future textbooks must move beyond surfacelevel cultural references and embed IKS principles intentionally and visibly. This shift will not only enrich the educational experience of young learners but also foster a generation that values, preserves, and advances the wisdom of its own civilizational roots.

6.1. RECOMMENDATIONS

Based on the findings and analysis of the NCERT Class 3 textbook Our Wondrous World from the Indian Knowledge System (IKS) perspective, several recommendations can be made to enhance the integration of traditional knowledge, values, and pedagogical approaches in early education.

1. Explicit Integration of IKS Frameworks

Educational content creators and curriculum designers should intentionally frame and label concepts rooted in IKS. Elements such as Panchatatva, traditional ecological knowledge, Ayurveda, oral traditions, and ethical teachings should be explicitly identified, explained in age-appropriate language, and linked to present-day contexts. This will enhance students' recognition and appreciation of India's intellectual and cultural heritage.

2. Inclusion of Regional and Cultural Diversity

IKS is not monolithic. It encompasses a wide variety of traditions, languages, and practices across India. Future textbook editions should include diverse stories, customs, and ecological practices from various regions to reflect this pluralism. Highlighting tribal knowledge systems, local farming traditions, and regional crafts will help foster a more inclusive and representative educational experience.

3. Incorporation of Traditional Pedagogies

The textbook should employ more traditional teaching methods like storytelling, riddles, proverbs, and songs, which have historically been used in Indian communities to impart values, wisdom, and practical knowledge. These methods enhance memory retention, emotional engagement, and moral development.

4. Use of Visual and Interactive Content Rooted in IKS

Illustrations, diagrams, and classroom activities should be designed to reflect traditional attire, tools, festivals, and indigenous practices. This will support visual learning and create a culturally immersive experience. Activities such as craftwork, observing local flora/fauna, or engaging in community traditions can foster experiential and participatory learning.

5. Teacher Training and Awareness

To effectively deliver IKS-based education, teachers must be sensitized and trained in the principles and pedagogy of Indian Knowledge Systems. Workshops, resource books, and integration guidelines should be developed to support educators in incorporating these concepts into classroom teaching.

6. Alignment with NEP 2020 Goals

The textbook revision process should align with the National Education Policy 2020, which calls for the revival of traditional knowledge systems. Educational boards and NCERT should adopt a long-term strategy for embedding IKS in school curricula at all levels, starting from primary education.

In summary, embedding IKS meaningfully into textbooks requires deliberate curricular decisions, inclusive content creation, innovative pedagogy, and capacity building for educators. Implementing these recommendations will contribute to a holistic, rooted, and culturally resonant learning environment for India's young learners.

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