



Integrating Indigenous Knowledge Systems with Global Education: An Explorative Study

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Abstract: *Indigenous knowledge system represents a rich heritage of indigenous wisdom, which is social interaction, pedagogical practice and spirituality thoughts. This approach recognizes that knowledge is not just a collection of facts. It depends on human observation and deep feelings. While global education is an interdisciplinary approach to learning to understand and interconnect the world. It focuses on developing global competence among the students through indigenous knowledge. The goal of which is to increase global awareness, cultural literacy, system thinking, social responsibility, complex problem solving and digital connectivity in the educational sector. This study employed a qualitative approach of research using documentary analysis, drawing insights from classical text, policy documents. The analysis highlights that indigenous knowledge encourages students to see themselves as “global citizens” who have a role in solving international challenges like economic understanding, climate change, and human right etc. It supports the balanced development of holistic learning, experiential understanding, ethical development, cultural adjustment, which is help to student growth of physical, mental, emotional and spiritual. This study found that the integration of indigenous knowledge with global education faces notable challenges, including inadequate teacher training, limited standardized curricula, and misconception about indigenous knowledge. Morally, this study has been focused on the relationship between indigenous knowledge and global education with respect to science, yoga, mathematics, environmental knowledge, astronomy, pedagogical foundation to generate new insight which has developed global education.*

Keywords: *Indigenous Knowledge, Global Education and Digital Literacy.*

Introduction: The Indigenous Knowledge System (IKS) has a history that spans thousands of years and includes a variety of fields such as philosophy, education, mathematics, astronomy, and medicine—especially Ayurveda—along with architectural design, arts, and spirituality, which encompasses Yoga (Battiste, 2002; Senanayake, 2006). These systems of knowledge are intricately woven into cultural traditions and community practices, showcasing a comprehensive understanding of life and the environment.

Education systems worldwide are increasingly influenced by globalization, technological progress, and the quest for standardized knowledge frameworks. Although these changes have enabled cross-cultural interactions and innovations, they have also led to the marginalization of Indigenous Knowledge Systems, which are deeply rooted in local cultures, traditions, and lived experiences (Dei, 2000). Indigenous knowledge, typically passed down orally and practiced within communities, provides distinct insights into

ecology, sustainability, health, and social organization that have developed over generations (Agrawal, 1995).

In recent years, there has been a rising acknowledgment of the significance of incorporating Indigenous Knowledge Systems into formal education. Global entities like UNESCO have highlighted the necessity of safeguarding cultural diversity and fostering inclusive education systems that honor various ways of knowing (UNESCO, 2017). The incorporation of IKS into global educational frameworks not only enhances curricula but also nurtures cultural identity, bolsters community involvement, and encourages sustainable development (Semali&Kincheloe, 1999).

Nevertheless, the process of integration is intricate and multifaceted. It necessitates reconciling the disparities between Indigenous epistemologies—which are frequently holistic, experiential, and context-specific—and global education frameworks that are typically standardized, formalized, and driven by assessments (Battiste, 2002). Complications arise from challenges such as insufficient documentation, language barriers, and resistance from institutions, which further hinder these initiatives (Dei, 2000). Concurrently, there are opportunities available through interdisciplinary methods, participatory pedagogy, and progressive policy reforms that can connect these diverse knowledge systems.

This exploratory study aims to investigate the possibilities for merging Indigenous Knowledge Systems with global education. It seeks to pinpoint significant challenges, opportunities, and strategies that can foster a more inclusive and culturally responsive educational framework. By engaging with existing literature, case studies, and theoretical viewpoints, the study adds to the ongoing conversation about redefining education in a way that appreciates both global competencies and local wisdom.

Review of the Related Literature: A literature review is a critical component of research and academic writing, serving multiple essential purposes, including- Understanding Existing Knowledge, Identifying Knowledge Gaps and Selecting Appropriate Methodologies. Here researcher has studied various related works, these are as follows-

Biswas, R. (2017) exploring indigenous knowledge systems of education in ancient India: a comprehensive study, this comprehensive study delves into the indigenous knowledge systems of education in ancient India, offering a profound exploration of its philosophical underpinnings, curriculum, pedagogy, social dynamics, and contemporary relevance. Through an interdisciplinary approach, drawing from historical, philosophical, and sociocultural perspectives, the research examines the multifaceted aspects of education in ancient India, encompassing the Vedic, Buddhist, and Jain traditions. By analyzing the Gurukul system, the role of gurus, and the transmission of knowledge through oral traditions and manuscripts.

Moitra, P.& Madan, J.(2025) Stakeholder perspectives on integrating Ayurveda and Indian Indigenous Knowledge Systems into higher education: An exploratory study, the renewed emphasis on mainstreaming Indigenous Knowledge Systems (IKS) in higher education globally, including in India, has sparked interest in leveraging traditional teaching methodologies for holistic learner development. However, integrating IKS into existing curricula requires a nuanced understanding of stakeholder perceptions and an appraisal of the challenges and opportunities within current educational frameworks. This paper presents the findings of a qualitative study examining stakeholders' perspectives on integrating Indian IKS, with a particular focus on the indigenous medicine system, Ayurveda, into higher education health and nutrition science curricula. Interviews, focus groups, and panel discussions were conducted with administrators, educators, learners, and subject experts to identify barriers and develop strategies for successful integration. Results revealed that educators were “convinced but not confident” about content and pedagogy, learners were “unsure” about the relevance of IKS for their future careers, and administrators expressed concerns about bridging the gap between traditional and modern scientific perspectives. Thematic analysis identified five actionable strategies: 1) Stakeholder training and capacity building to reduce implementation hesitancy, 2) Curricular

design and restructuring to incorporate discipline-specific IKS courses and integration models, 3) Pedagogical innovations such as real-life simulations, experiential learning, and reflective evaluation, 4) Student sensitization and resource generation to meet learner needs and expectations, and 5) Interdisciplinary collaboration and research to build evidence regarding the efficacy and applicability of IKS practices in addressing present-day challenges. These insights provide unique stakeholder perspectives on the ongoing deliberations about mainstreaming IKS and creating a synergistic framework that enhances learners' intellectual, cultural, and practical competencies.

Devkota, K. &Timilsena, N. (2023). Indigenous Knowledge in Science Classroom Practices: An Explorative Study, Indigenous knowledge systems give a unique environmental perspective and can benefit science education by promoting cultural understanding, sustainability, and holistic learning. This study assessed Indigenous Knowledge's practices (IK) in the science classroom, IK of the community regarding science education and the possibility of IK connecting to the science curriculum. In qualitative interviews, FGDs of participants were recorded as the data. Teachers, community members and students are valued. The study also found that limited teacher training, resources, and culturally relevant pedagogy hinder Indigenous knowledge gaining in science classes. The research also showed that educators, Indigenous communities, and curriculum makers must collaborate to include Indigenous knowledge. Classroom practices of science education practices encourage indigenous knowledge through exploration. Science classes that acknowledge Indigenous viewpoints and integrate various knowledge systems are emphasized. This study advises educators, policymakers, and curriculum authors to use Indigenous knowledge to improve cultural diversity, science education, and student equity.

Need and Significance of the Study: I challenged myself to conduct this research aiming to explore the opportunities and challenges for the integration of indigenous knowledge systems, as an alternative form of knowledge which is promotes global education. My interest in researching indigenous knowledge and how it can be incorporated into global education. We face global environmental shift, we need to study how indigenous knowledge can inform global sustainability goals and improving cultural relevance. This study holds weight for educators policymakers, and the global community at large, for sustainable development particularly SDG 4

Objectives of the Study:

1. To study the relevance of Indigenous Knowledge System in GlobalEducation.
2. To study the pedagogical method underlying indigenous knowledge system develops to the global education.

Methodology: This paper is based upon secondary data-based research methodology. Here research has followed the approach of qualitative research, relying on an extensive review of existing literature, policy documents, and academic publications. Data sources include peer-reviewed journals, government reports such as the National Education Policy (NEP) 2020, books by renowned scholars and empirical studies from google scholar. A qualitative approach is used to identify recurring themes such as Indigenous knowledge system, holistic education, and validation of global education, integrating IKS with global education is recognized as a meaningful step toward achieving holistic, inclusive, and sustainable learning.

Operational Definition:

- **Indigenous knowledge system:** Indigenous knowledge systems (IKS) are dynamic, cumulative bodies of, practices, and beliefs developed by local communities through generations of interaction with their environment. They are holistic—integrating cultural, ecological, and spiritual aspects and are often orally transmitted to manage resources sustainably. These systems include traditional agriculture, medicine, biodiversity conservation, and governance.

- **Global Education:** Global education is an educational approach that prepares learners to understand, navigate, and positively impact an interconnected world by fostering knowledge of global issues, cultural empathy, and sustainable development. It integrates global perspectives into curricula to develop critical thinking, collaboration, and responsibility toward local and global challenges.

Analysis and discussion:

Objective- 1: In global education, adopting and implementing IKS will require redesigning the curriculum to include knowledge of culture, traditions, and regional languages and a focused approach to identify and integrate the pedagogy and principles from the ancient texts into mainstream learning environments. Here is an analysis of why IKS is relevant to global education. IKS provides:

Sustainability: Indigenous knowledge develops sustainability by integrating localized, ecological, and holistic wisdom with global education to foster environmental stewardship. It promotes regenerative practices, such as traditional agriculture and resource management, transforming curriculums to prioritize intergenerational responsibility, biodiversity conservation, and harmonious relationships with nature.

Practical ecological solutions: Traditional method of land management in hills region and river bank. Water conservation, agricultural practices. All these issues are included in the IKS which influences global education. Through which every country in the world commits to biodiversity conservation.

Holistic World views: IKS teaches student to see themselves as part of large society. IKS fosters a balanced personality by engaging the "heart, head, and hands," integrating spiritual wellbeing with intellectual and physical growth. Practices like yoga and meditation, when integrated, enhance mental wellbeing and reduce stress.

Collaboration with Community Elders: Involving elders and local experts as educators ensures authentic representation of traditional knowledge.

Contextualized Curriculum: Adapting teaching materials to reflect local environments such as using community-based case studies for science or geography improves learning outcomes.

Teacher Training: Providing educators with professional development that bridging indigenous and western epistemologies is essential for successful integration.

Social responsibility: IKS encouraging student to see themselves as a global citizen. IKS bridges the gap between social studies and science where student feel moral obligation to protect discrimination and diversity as a form of social justice. It moves social responsibility from an "extracurricular activity" (like volunteering) to a core identity, where harming the collective is seen as harming oneself.

Complex problem solving: It foster empathy and ethical reasoning in student, preparing them for responsible global citizenship. It influences the student work together in global view of point like pandemic or environmental shifts.

Digital connectivity: Online platforms and Massive Open Online Courses (MOOCs) can disseminate unique, localized indigenous knowledge to a global audience, enriching the curriculum of non-indigenous students.

Objective 2

- **Experiential Learning ("Learning by Doing"):** Indigenous pedagogy prioritizes *kriyā* (doing) and *darśana* (observation), fostering cognitive growth through direct interaction with the environment and tasks, rather than only through reading.

- **Storytelling and Oral Traditions:** Oral narratives, folk tales, and myths are utilized to transmit cultural ethics, history, and moral values.
- **Relational Mentorship** (e.g., Guru-Shishya Parampara): This model emphasizes a close, ethical relationship between teacher and learner, focusing on personalized guidance and character development. Which is deal with global education
- **Land-Based Education:** Knowledge is linked directly to the physical landscape, promoting ecological awareness and sustainability.
- **Community Engagement:** Learning occurs within the community, involving elders and knowledge keepers to ensure authentic, intergenerational transmission.
- **Holistic and Integrative Thinking:** IKS bridges body, mind, and spirit, often integrating academic subjects with artistic, practical skills (pottery, agriculture), and ethical consciousness

Findings:

Objective 1: Indigenous Knowledge Systems (IKS) are critical to global education for fostering sustainable development, cognitive justice, and student engagement. Integrating IKS including traditional ecological knowledge, holistic pedagogy, and local wisdom remedies educational alienation, enhances student retention, and provides practical, sustainable solutions to modern crises such as environmental degradation and health challenges.

Objective 2: The core principle of IKS- based pedagogy involves integrating indigenous knowledge, practices, and global views into education, emphasizing holistic learning, inclusivity, cultural diversity and sustainable practices in education

Conclusion: The present scenario into modern education system where they outlined the integration of Indigenous Knowledge Systems in the educational system. Ultimately, the convergence of these systems fosters a more empathetic, sustainable, and inclusive educational landscape. By validating Indigenous methodologies, global education can move toward a truly universal standard—one that respects local context, honors ancestral heritage, and prepares future generations to act as responsible stewards of a shared planet. The successful integration of IKS into modern education requires a concerted effort from policymakers, government bodies, and educational institutions to ensure its credibility, relevance, and impact on a global scale.

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