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THE IMPACT OF IKS ON CURRICULUM DESIGN AND PEDAGOGY IN INDIAN HIGHER EDUCATION

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Abstract
The integration of Indigenous Knowledge Systems (IKS) into Indian higher education represents a transformative shift toward a inclusive, equitable, and contextually relevant academic landscape. Historically sidelined by colonial frameworks that prioritized Western scientific models, IKS encompasses complex, evolving traditions rooted in local practices such as agriculture, resource management, and health (M Buchan C et al.). This paper explores how embedding IKS into curriculum design and pedagogy—as mandated by the National Education Policy (NEP) 2020—addresses historical injustices and dismantles systemic inequalities within academia. Integrating IKS enhances educational outcomes by fostering critical thinking, community engagement, and a stronger sense of cultural identity among students (Salas SZ-Pilco et al., p. 13572-13572). Case studies from various Indian universities demonstrate that blending traditional wisdom with modern disciplines, such as STEM and health sciences, improves learner engagement and prepares graduates to tackle contemporary global challenges like environmental sustainability. Furthermore, IKS-influenced pedagogical approaches emphasize experiential and collaborative learning, moving away from traditional rote-centered styles to value diverse ways of knowing. Despite these benefits, significant challenges remain, including institutional resistance, a lack of teacher training, and the prevailing dominance of Western values. Overcoming these barriers requires a comprehensive reevaluation of curriculum development, prioritizing the co-creation of content with indigenous communities and the use of modern tools like AI to support diverse learning needs. Ultimately, embracing IKS is essential for decolonizing education in India, ensuring that the system remains socially relevant and sustainable for future generations.

Keywords: Indigenous Knowledge Systems (IKS), Curriculum Design, Indian Higher Education, Pedagogy, Inclusivity.

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I. Introduction

Indian higher education is adding Indigenous Knowledge Systems (IKS) to the curriculum. This change moves schools toward a more inclusive system. This approach recognizes the diverse social and cultural mix of India. It also builds a learning space that appeals to students from different backgrounds. Colleges include IKS to use the richness of local traditions. This matches educational practices with the values and experiences of marginalized communities. Including these systems is important because technology and teaching methods continue to change education. Recent studies highlight the challenges and advantages of this movement. Using modern tools like AI

helps minority groups engage and perform better. Discussions about inclusivity are growing more relevant. We must address historical injustices and work to remove barriers within school systems.(Salas SZ-Pilco et al.,).Furthermore, as discussions around inclusivity become increasingly pertinent, it is essential to address historical injustices and work towards dismantling barriers within educational frameworks.

II. Definition of Indigenous Knowledge Systems (IKS)

Indigenous Knowledge Systems (IKS) come from the unique, complex, and evolving traditions of indigenous communities. These systems connect deeply to local places. They cover fields like farming, resource management, and health. These practices often rely on a worldview that centers on nature. Adding IKS to education improves teaching methods and builds critical thinking. It makes the curriculum matter to the real lives of students. For example, South Africa mixes IKS into STEM education. This bridges cultural gaps. It improves learning and includes everyone. Teacher training programs also call for IKS recognition. This recognition helps achieve fairness and is needed to decolonize education. Adding IKS transforms the curriculum.

III. Importance of IKS in the Context of Indian Higher Education

Adding Indigenous Knowledge Systems (IKS) to Indian higher education creates a complete learning environment. This setting reflects cultural diversity and social relevance. Educational institutions prioritize IKS. They acknowledge the rich traditions and knowledge of indigenous communities. This focus makes the curriculum more inclusive and relevant to current social issues. This approach fits findings that education must connect with social contexts. Such connections improve student results. They encourage interest in diverse fields, specifically STEM and STEAM disciplines . Integrating IKS helps end systemic inequalities within academia. It supports a system where people value and hear marginalized voices. The value of IKS goes beyond simple curriculum improvements. It creates an educational setting that is fair, culturally aware, and well-informed.(Salas SZ-Pilco et al.,).

IV. Overview of the Essay's Structure and Main Arguments

The essay follows a clear structure. An introduction outlines the value of Indigenous Knowledge Systems (IKS). These systems shape curriculum design and teaching in Indian higher education. The second section reviews current educational models. It notes the limits of traditional systems. These old models often ignore local knowledge. The third section combines IKS teaching practices. It shows how they create culturally relevant learning. This approach connects with diverse student groups. The analysis then shifts to necessary facility and policy changes. Institutions need these updates to include IKS. The text points to case studies of successful use. Finally, the conclusion covers the wider effects of adding IKS to curricula. It supports a major change in education. This change respects marginalized voices. This full review critiques existing patterns. It also offers a plan to add IKS. This helps decolonize education in India. It fits with social justice movements in universities.

V. Historical Context of IKS in Indian Education

The history of IKS in Indian education is key to understanding current curriculum design. IKS once relied on local practices. It focused on experiential learning, community participation, and culturally relevant content. This approach supported an inclusive environment for diverse backgrounds. British rule brought colonial education systems that imposed Western models. This

shift sidelined indigenous knowledge. Modern discussions on decolonizing the curriculum must fix these historical gaps. The goal is a curriculum that acknowledges and adds IKS to learning structures. Recent initiatives note that decolonization efforts can become empty gestures. Real engagement with IKS challenges educators to rethink power dynamics in academia. They must build teaching practices that reflect India's rich cultural variety. New technologies can improve the use of IKS. But educators must consider the educational and social effects.(Moghli MA et al.). Furthermore, the integration of new technologies can augment the effective application of IKS, although it must be approached with consideration of both pedagogical and sociocultural implications.

VI. Evolution of Educational Practices in India

Educational practices in India have changed in many ways, and they now focus on inclusive teaching and technology. Schools added Indigenous Knowledge Systems (IKS) to the curriculum. This allows institutions to link traditional wisdom with modern teaching methods. This combination respects cultural heritage and brings it back to life. It also improves the learning experience. Knowledge becomes clearer when it fits the students' social and cultural background. Experts note that new technologies like AI improve student performance and engagement. Social movements regarding inclusion and equity also affect education. They show the need for reform. Schools must embrace diverse perspectives . These changes aim to build a responsive system. It must recognize the value of cultural and technological progress. Furthermore, exploring the broader implications of social movements in education, such as those addressing inclusion and equity, further reaffirms the necessity for educational reform that embraces diverse perspectives (Flewellen AO et al., p. 224-243). This evolution ultimately aims to create a more dynamic and responsive educational landscape that recognizes the value of cultural and technological advancements.

VII. Role of Traditional Knowledge in Shaping Early Education

Adding traditional knowledge systems (IKS) to early education changes course design in Indian higher education. It also shapes teaching methods. These forms of knowledge come from historical practices and cultural stories. Teachers use this rich background to improve student results. For example, applied mathematics uses local facts. Students work with math concepts in real situations. This builds thinking and problem-solving skills. Online learning initiatives have also highlighted the importance of collaborative learning. This emphasis shows how parents and communities shape educational success. Teachers add traditional knowledge to their plans. This builds a curriculum that respects heritage and prepares students for modern challenges. This complete approach makes the educational experience better. It promotes a deep connection to both local and global settings.(Philomena A M et al., p. 113-122). Moreover, the emphasis on collaborative learning, as highlighted during recent educational shifts such as online learning initiatives, underscores the role of community and parental involvement in shaping educational efficacy (Rasmitadila R et al., p. 90-109). By embedding traditional knowledge within pedagogical frameworks, educators can frame curriculum that incorporates respects cultural heritage as well as prepares students to meet contemporary societal challenges effectively. This holistic approach ultimately enriches the educational experience, promoting a deeper connection to both local and global contexts.

VIII. Integration of IKS in Curriculum Design

Indian higher education changes by adding (IKS) to curriculum design. This shift follows the guidelines from NEP 2020. The policy demands a move toward an inclusive system rooted in context. It places value on indigenous knowledge next to standard academic subjects. Schools add IKS to encourage ethical practice and community work. They develop specific plans that fit local needs. This method improves learning and builds grassroots leadership. It adds to shared growth in society. Recent studies outline requirements for effective design. Plans must have clear principles, varied teaching methods, and joint fieldwork to spread IKS across education . Methods for use include innovation hubs and university partnerships. These steps turn IKS into real social welfare solutions.(Gore et al.). Furthermore, implementation strategies, including the establishment of innovation hubs and university-community partnerships, are critical to ensuring that IKS translates into actionable social welfare solutions (Gore et al.).

IX. Strategies for Incorporating IKS into Existing Curricula

Adding IKS to current curricula requires a varied approach. Planners must look at social contexts and teaching methods. Leaders must review curricula thoroughly to integrate IKS. Surface changes are not enough. This matches the critique of decolonization initiatives. These efforts often fail to fix deep inequalities . Effective strategies include co-creating curricula with local Indigenous communities. This builds a shared exchange of knowledge and values. Modern technological driven framework the delivery of IKS. Literature highlights this benefit. It helps students engage and perform better. This is true in STEM fields . Teachers also need training in culturally responsive practices. This bridges the gap between traditional content and Indigenous perspectives. It makes higher education a more inclusive space.(Moghli MA et al.). Effective strategies include co-creating curricula alongside local Indigenous communities, thereby fostering a reciprocal exchange of knowhow and cultural values. Additionally, the adoption of new technologies, as highlighted in the literature, can enhance the delivery of IKS, promoting greater learner involvement and performance, especially in STEM fields (Salas SZ-Pilco et al.,). Moreover, training educators in culturally responsive teaching practices is vital to build a bridge between traditional academic content and Indigenous perspectives resulting into a more inclusive and representative space.

X. Pedagogical Approaches Influenced by IKS

Bringing Indigenous Knowledge Systems (IKS) into Indian higher education teaching marks a major change to standard education models. These methods focus on learning through experience and community. They build strong links between students and their culture. Teachers include local contexts and issues to make the curriculum open to everyone. This approach connects with students from different backgrounds and supports the broader goals of fair education. For instance, a systematic review on AI and new technologies shows clear benefits for student interest and grades. These gains happen when teachers mix old methods with new tools that respect social and cultural differences. Teachers must also address the need to dismantle antiblackness and create fair teaching structures. Such pedagogical strategies not only validate Indigenous perspectives but also prepare students for a pluralistic society

XI. Student-Centered Learning and IKS

Combining Indigenous Knowledge Systems (IKS) with student-centered learning in Indian higher education changes curriculum design and teaching approaches. This shift encourages students to

participate in the learning process. It builds critical thinking and personal agency. These methods differ from traditional rote-centered styles. Institutions add IKS to value contextualized knowledge. This supports diverse ways of knowing that match the cultural backgrounds of students. Decolonizing frameworks show the value of this approach, such as in Aboriginal social work education. Adding IKS improves course content. It also builds a sense of identity and belonging for learners. Linking student-centered learning with IKS makes education relevant. Students can then contribute to their communities. This process addresses systemic inequities in higher education.

XII. Conclusion

Integrating Indigenous Knowledge Systems (IKS) into Indian higher education moves beyond standard teaching models. Schools can use IKS to create study plans that honor local cultures and knowledge. This helps students feel like they belong. This strategy adds value to academic content. It encourages critical thinking and the ability to adapt. These skills remain vital in a changing world. Current research points out another trend. New technology in higher education makes collaboration and adaptation necessary. Findings show that tools like AI boost student interest and grades. These tools also help solve social inclusion problems.Making these system changes will give future generations a complete understanding of their environment. They will be ready for a connected society. (P S Aithal et al., p. 294-322), (Salas SZ-Pilco et al.,). Ultimately, fostering these systemic changes will equip future generations with the holistic understanding necessary to navigate an increasingly interconnected world.

XIII. Future Implications for Curriculum and Pedagogy in Higher Education

Higher education changes often. The use of Indigenous Knowledge Systems (IKS) deeply affects how we design courses and teach. Including IKS builds a more inclusive environment. It also makes academic programs matter more to diverse students. Trends show that using advanced tools like artificial intelligence can simplify teaching. These tools also help with the unique challenges minority groups face in universities. For example, using AI improves student results and participation. This helps build interest in STEM/STEAM fields, in line with findings. Also, the push toward antiracist practices in curriculum reform continues. As discussed, this shows we need courses that examine and break down systemic bias. Adding IKS to higher education creates a complete educational experience. It prepares students for a complex world. Additionally, the push towards antiracist practices in curriculum reform, as discussed in (Flewellen AO et al., p. 224-243), underscores the necessity for curricula that critically examine and deconstruct systemic biases. Ultimately, the infusion of IKS into higher education can facilitate a more holistic educational experience, preparing students to navigate an increasingly complex world.

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