

Integration of Artificial Intelligence with the Indian Traditional Knowledge System for Enhancing Modern Competencies to Meet the Challenges of Contemporary Students

Alka Rana¹ & Dr. Shalini Singh²

¹PhD. Research Scholar, V.M.L.G College, Ghaziabad

²Associate Professor, Department of Teacher Education V.M.L.G College, Ghaziabad

²Email: sshalini_78@rediffmail.com



Received 10 September 2026

Accepted 15 September 2026

Published 22 September 2026

Corresponding Author:

Dr. Shalini Singh

Email: sshalini_78@rediffmail.com

DOI: <https://doi.org/10.64880/pcjaict.v1i5.17>

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sector.

Copyright: © 2026 The Author(s).



This is an open access article under the [Creative Commons Attribution-Noncommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/).

OPEN ACCESS

Abstract:

Contemporary students have an increasing need to develop skills like critical thinking, problem-solving, creativity, cooperation, flexibility, digital literacy, and emotional well-being due to the quickly evolving educational, technical, social, and professional milieu. In this regard, combining Artificial Intelligence (AI) with the Indian Traditional Knowledge system (ITKS) presents a viable way to deal with new issues in education while maintaining the philosophical and cultural underpinnings of Indian knowledge traditions. Yoga, Nyaya, Tarka, Kavyashastra, Lokavidya, and the Gurukula tradition are few of the many fields that make up the Indigenous Indian knowledge system. These fields place a strong emphasis on holistic growth, logical reasoning, creativity, experiential learning, ethical principles, self-discipline, and community-based learning. Through collaborative learning, data-driven decision-making, intelligent tutoring, adaptive assessment, personalized learning, and automation of repetitive educational chores, artificial intelligence can enhance these ideas. Therefore, integrating AI with ITKS can give students the chance to build the human-centered skills and modern technology competencies needed to deal with the hitches of today's society. AI-supported educational settings, for example, can enhance mindfulness and well-being through yoga-based practices, encourage creativity through principles derived from Kavyashastra and Shilpa Shastra, and facilitate logical inquiry inspired by Nyaya and Tarka. Digital inequality, ethical AI use, data privacy, cultural authenticity, and the challenge of diminishing various knowledge traditions to simpler digital representations must all be carefully considered before such integration can take place. The study highlights the requirement for inclusive, learner-centered, ethically responsible, and culturally sensitive integration of AI and ITKS. Future-ready students that are technologically proficient, critically aware, creative, adaptive, ethically responsible, and grounded in Indian knowledge and values can be developed with the use of such a framework.

Keywords: Education, Artificial Intelligence (AI), Indian Traditional Knowledge system (ITKS), Modern competencies, Integration, Contemporary students.

Introduction

The educational and social landscape has changed quickly and become more complex since the turn of the twenty-first century. Students' lives and educational experiences have been profoundly impacted by global connectivity, technological innovation, and digital advancement, environmental concerns, shifting work patterns, and growing social interconnection. As a result, today's students must overcome obstacles that go beyond learning subject-specific information. Critical thinking, creativity, problem-solving, effective communication, collaboration, adaptability, digital literacy, emotional intelligence, and ethical reasoning are among the essential skills required by students in the contemporary world. These competencies enable learners to understand complex situations, make informed decisions, adapt to rapid technological developments, and behave responsibly in an increasingly interconnected society. The changing nature of society has created a need to reconsider traditional approaches to education. Educational systems are expected not only to provide knowledge but also to prepare students with the ability to apply that knowledge creatively, respond effectively to new situations, work collaboratively with others, and navigate continuous social and technological changes. Artificial intelligence has a great deal of promise to meet kids' various learning needs. AI-powered educational systems are able to evaluate students' performance, spot learning gaps, offer tailored feedback, suggest instructional materials, and develop flexible learning routes. In addition to allowing for a greater focus on higher-order learning and mentorship, these applications can assist teachers in responding to variations in the learning demands of their pupils. Artificial Intelligence also offers opportunities for students to develop skills of technological fluency, analytical thinking, creativity and problem-solving. But the technological capability may not be sufficient to prepare students for the broader challenges of life in the contemporary world. Too much dependence on AI may also lead to worries about critical engagement with information, ethical decision-making, cultural relevance, human interaction, privacy and independent thinking. Hence, it is important to embed the practice of AI in an educational background that brings cultural, ethical, humanistic, and holistic dimensions to technological development. In such a context, the Indian Traditional Knowledge system (ITKS) offers an important knowledge framework to rethink the goals and processes of education. ITKS is a treasure trove of knowledge, traditions, philosophies, practices and systems that have been developed over centuries in the Indian subcontinent. It consists of many fields such as philosophy, logic, mathematics, health and well-being, arts, literature, environmental knowledge, architecture, ethics and education. Nyaya and Tarka ideas emphasize logical reasoning, inquiry and debate. Yoga encourages self-discipline, mindfulness and holistic well-being. Ayurveda is an integrated approach to health and balance. The Gurukula tradition epitomizes mentorship, experiential learning, character development and close teacher-learner relationships.

These aspects of ITKS provide perspectives that can enrich modern competency-based education by focusing on holistic development of the learner instead of academic achievement alone.

The relevance of ITKS in contemporary education has been renewed in India particularly in light of National Education Policy (NEP) 2020 which emphasizes the inclusion of Indian knowledge, traditions, values and approaches in education. The policy supports holistic, multidisciplinary,

experiential and culturally rooted education that prepare learners for the encounters of the twenty-first century. However, the translation of the principles of ITKS into contemporary educational practices requires appropriate pedagogical approaches, digital accessibility, contextual adaptation and innovative ways of engagement. Technological means may be provided by artificial intelligence to make some selected principles and resources of ITKS more accessible, personalized, interactive and relevant to contemporary learners. Integration of AI with ITKS can, therefore, be perceived as a possible way to bridge technological innovation with culturally embedded educational knowledge. AI may help with the documentation, cataloguing, translation, distribution and contextualization of ITKS resources and enable personalized and interactive learning experiences. ITKS simultaneously can provide ethical, philosophical, human-centred and culturally contextual aspects to the application of AI in education. This need for integration is especially important in dealing with the problems of today's students. While students need technological competencies to be effective in an AI-driven world, they also need human capabilities such as ethical reasoning, creativity, empathy, self-awareness, collaboration, and responsible decision-making.

Against this background, the present paper explores how AI-enabled approaches, when informed by relevant principles and pedagogical perspectives of ITKS, may enhance the development of critical thinking, creativity, problem-solving, adaptability, digital competence, ethical reasoning, collaboration, and holistic well-being among learners. The paper further considers the potential benefits, challenges, and ethical complications of such integration. The central premise is that the meaningful convergence of AI and ITKS can contribute to an educational approach that is technologically responsive, culturally grounded, human-centred, and focused on equipping students to address the complex demands of contemporary society.

Concept of Artificial Intelligence (AI) in Education

The capability of computers and computer systems to carry out work that often require human intellect, for example education, reasoning, problem-solving, decision-making, language comprehension, and pattern recognition, is known as artificial intelligence. (UNESCO, 2019). AI systems are built on cutting-edge technology like neural networks, artificial intelligence, language processing, and data analytics. (Luckin et al., 2016).

In education, Artificial Intelligence plays an important role by enabling customized learning, flexible assessment, intelligent teaching systems, automated feedback, and data-driven educational planning (Luckin et al., 2016). AI-based tools can analyze learner behavior, learning pace, strengths, and weaknesses, and accordingly provide customized learning experiences. This helps in improving learning outcomes, inclusivity, and learner engagement.

AI is not merely a technological innovation but a transformative force that influences how knowledge is created, shared, and applied (UNESCO, 2019). However, the operational use of modern technology in education requires ethical guidance, human values, and cultural sensitivity, which can be provided by traditional knowledge systems such as the Indigenous knowledge System (Mishra, 2021).

Concept of Indian Traditional Knowledge System (ITKS)

The Indian Traditional Knowledge system refers to the vast and diverse body of knowledge developed in India over thousands of years. It includes disciplines such as philosophy, logic, mathematics, astronomy, medicine, linguistics, architecture, ethics, governance, and education (Mishra, 2021). Knowledge traditions like the Vedas, Upanishads, Nyaya, Samkhya, Ayurveda, Yoga, Arthashastra, and the Gurukul system of education form an integral part of ITKS (Sharma & Gupta, 2020).

Indian Traditional Knowledge system emphasizes holistic development by integrating intellectual, moral, physical, and spiritual dimensions of learning. Traditional Indian pedagogy promoted inquiry, dialogue, experiential learning, and ethical living (Mishra, 2021). Teachers acted as mentors, and education aimed at self-realization, social responsibility, and harmony with nature.

In the contemporary context, Indian Traditional Knowledge system is gaining prominence in meeting modern challenges such as ethical dilemmas, sustainability, mental well-being, and holistic education (Sharma & Gupta, 2020). Integrating Indigenous knowledge system with modern technologies like Artificial Intelligence ensures that education remains rooted in human values while embracing innovation.

Concept of Modern Competencies

As the 21st century began, the entire globe has seen a period of profound change in every field, including technology, society, education, international trade, and the economy. The COVID-19 epidemic has recently made it more difficult for people to deal with its effects. Such circumstances naturally require a distinct set of skills that enables individuals to overcome real-life challenges and achieve holistic development. These skills are commonly described as modern competencies. Thus, modern competencies encompass the knowledge, skills, attitudes, and abilities that individuals need to develop comprehensively thereby enabling them to contribute significantly to the advancement of their society, nation, and the global community.

Core skills include:

- Critical thinking and problem solving
- Creativity and innovation
- Digital literacy
- Communication and collaboration
- Ethical reasoning and global citizenship

These competencies are essential for the knowledge economy and future workforce.

The irrevocable forces of automation, information abundance, and globalization are driving the urgent need for modern competencies, including critical thinking, creativity, cooperation, and digital literacy. These skills are now essential for people to be successful in a workforce where regular tasks are automated, information must be critically assessed, and work is done in multidisciplinary, international teams. Without these abilities, people run the risk of becoming economically irrelevant, and educational systems fall short of their primary goal of preparing students for the intricate problems and ever-changing realities of contemporary life and the workplace.

(Ananiadou & Claro, 2009) This paper explains the need for modern competencies as follows: "Today, because of rapid economic and social change, schools have to prepare students for jobs that have not yet been created, technologies that have not yet been invented and problems that we don't yet know will arise."

Review of Related Literature

In view of the growing need to equip modern students with competencies to cope with rapidly changing technological, social, and educational challenges, the integration of Artificial Intelligence (AI) with the Indigenous Indian knowledge system (IICS) has gained increasing relevance. The following literature review examines previous studies on AI in education, IICS-based learning, and their emerging integration, with particular emphasis on competency development, holistic learning, and the preparation of students for contemporary challenges.

Zawacki-Richter et al. (2019) examined the application of Artificial Intelligence (AI) in higher education and identified several major areas in which AI can support educational processes, including assessment and evaluation, adaptive systems and personalization, intelligent tutoring systems, and profiling and prediction. Their review indicated that AI has the potential to provide individualized learning opportunities and enhance the ability of educational systems to respond to diverse learner needs. At the same time, the authors emphasized the importance of considering pedagogical and ethical dimensions while implementing AI in education. This study provides an important foundation for understanding AI as a technological resource for supporting learning and competency development, while highlighting the need for its integration within appropriate educational frameworks. **Shukla (2022)** examined the integration of Indigenous Indian knowledge systems (IICS) into education in the context of the National Education Policy (NEP) 2020. The study highlighted the significance of IKS in curriculum development, teaching-learning processes, and value-based education. IICS was described as encompassing diverse knowledge traditions related to philosophy, science, mathematics, medicine, environment, culture, and values. The study suggested that incorporating IICS into contemporary education can contribute to culturally relevant, holistic, and value-oriented learning. The findings are relevant to the present study as they establish the importance of incorporating Indian knowledge traditions into contemporary educational practices. **Varalakshmi et al. (2024)** investigated the integration of Indigenous Indian knowledge systems into contemporary STEM education as an approach to promoting interdisciplinary learning, creativity, sustainability, and the revitalization of traditional knowledge. The study highlighted the educational relevance of areas such as Ayurvedic knowledge, Vedic mathematics, and traditional sustainable technologies. It suggested that educational institutions can incorporate these areas into curricula and research initiatives to apply traditional knowledge to contemporary problems. Such an approach can enable students to move beyond a single knowledge paradigm, broaden their intellectual perspectives, and develop comprehensive approaches to global challenges. The study further emphasized that the integration of IKS and contemporary education can contribute to developing learners who are technically competent, ethically aware, culturally sensitive, and creatively motivated to address twenty-first-century

challenges. **Maheshwari (2024)** examined the role of Artificial Intelligence and contemporary technologies in making Indigenous Indian knowledge systems more accessible and engaging for present-day learners. The study recognized the value and relevance of India's traditional knowledge systems and highlighted the emphasis of NEP 2020 on bringing such knowledge into contemporary classrooms. However, the study also identified the challenge of presenting traditional knowledge in ways that are meaningful to today's students. It suggested that AI tools, including chatbots, can potentially make IKS more accessible, interactive, and engaging. At the same time, concerns were identified regarding students' tendency to reproduce AI-generated answers without critical thinking, the possibility of inaccurate information, and the risk of losing the deeper meaning and context of traditional texts. Therefore, the study emphasized that AI should be used as a supportive educational tool rather than as a substitute for teachers. The study further suggested that technology should be employed to make traditional knowledge relevant to contemporary problems while maintaining its authenticity and accuracy. Maheshwari (2024) also examined the implementation of NEP 2020 in relation to the vision of developing a "Viksit Bharat" by 2047. The study emphasized the need for continuous educational reforms that promote inclusion, adaptability, innovation, and future readiness. Curriculum modernization, reduction of the skills gap, comprehensive educational experiences, and continuous professional development of teachers were identified as important requirements for educational transformation. The study further suggested that the effective combination of emerging technologies and traditional knowledge, supported by appropriate partnerships, government initiatives, and innovation, could contribute to the transformation of India's education system. Despite the challenges associated with implementing NEP 2020, the study identified considerable potential for developing a more self-reliant, innovative, and future-oriented educational system.

Bond et al. (2024) conducted a meta-systematic review of research on Artificial Intelligence in higher education, examining systematic review literature and identifying the roles of AI across learning, teaching, assessment, and administration. The review highlighted the potential of AI to support personalized learning, feedback, assessment, and educational decision-making. However, the authors also emphasized important concerns related to ethics, collaboration, data, implementation, and methodological rigour. Their findings suggest that the educational benefits of AI cannot be considered independently of the ethical and pedagogical conditions under which AI is implemented. The study therefore provides an important basis for considering responsible and human-centred approaches to AI integration in education. **Sunanda (2025)** reviewed significant scholarly works concerning the integration of Artificial Intelligence with the Indigenous Indian knowledge system in education, with particular attention to Indian authors and perspectives. The review highlighted the potential of AI-IKS integration for developing competencies such as communication, critical thinking, problem-solving, teamwork, creativity, and digital literacy. It further indicated that the growing interest in integrating AI with IKS reflects the need to connect technological advancement with culturally grounded approaches to education. The study emphasized that such integration may provide opportunities to make

traditional knowledge more accessible and relevant to contemporary learners while maintaining its cultural and educational significance.

Operational Definitions of Key Terms

1. Education

Education is a systematic and continuous process of facilitating the acquisition of knowledge, skills, values, attitudes, and competencies that promote to the intellectual, social, emotional, ethical, and overall development of learners.

2. Modern competencies

Modern competencies is the integration of knowledge, skills, abilities, attitudes, and values that enable students to effectively perform tasks, solve problems, adapt to changing situations, and respond appropriately to academic, personal, social, and professional challenges.

3. Artificial Intelligence (AI)

Artificial intelligence refers to systems designed to undertake tasks traditionally associated with human cognitive abilities, including learning, reasoning, problem-solving, language processing, pattern recognition, and decision-making.

4. Indian Traditional Knowledge system (ITKS)

Indian Traditional Knowledge system refers to the diverse and interconnected body of knowledge, traditions, practices, philosophies, and indigenous wisdom developed and transmitted in the Indian subcontinent across generations. It encompasses areas such as philosophy, mathematics, science, medicine, yoga, arts, literature, ethics, environmental knowledge, and systems of learning.

5. Integration

Integration is the systematic and meaningful combination of Artificial Intelligence technologies with principles, practices, and knowledge traditions of the Indian Traditional Knowledge system within educational processes to promote learning and enhance relevant competencies among students.

6. Contemporary Students

Contemporary students refer to learners who are growing and learning in the educational and technological environment and who are required to develop modern competencies such as reasoning abilities and creative thinking, digital literacy, collaboration, communication, adaptability, problem-solving, and ethical awareness to cope with rapidly changing societal and technological challenges.

Role of AI And ITKS Integration in Developing Modern Competencies

- **Development of Logical Reasoning and Critical Thinking**
Nyaya and other Indian philosophical traditions place a strong emphasis on reasoning, logic, and argument. These logical frameworks can be integrated into problem-solving activities and adaptive tests by AI-based learning platforms. Learners' reasoning thinking and reasoning skills are improved by this integration.

- Encouragement of Modernization and Originality

Through the arts, architecture, philosophy, and mathematics, ITKS promotes creativity. AI tools are capable of reinterpreting mathematical methods, classical patterns, and music for contemporary uses. Innovation that is contextually relevant and steeped in culture is fostered by this confluence.

- Improving AI and Digital Literacy

Students can better comprehend technology and recognize India's historical contributions to science and knowledge by incorporating ITKS into AI-based teaching. This method simultaneously increases self-assurance, cultural pride, and digital competency.

- Development of Ethical and Value-Based Skills

Indigenous knowledge system is based on ethical concepts like Dharma, Karma, and Vasudhaiva Kutumbakam. By incorporating these principles into AI ethics education, responsible and human-centered technology use is encouraged. Students acquire social responsibility and moral thinking.

- Personalized and Experiential Education

The Gurukul method placed a strong prominence on experiential learning and personalized mentoring. Similar ideas are reflected in AI-driven personalized learning systems, which improve understanding and engagement by tailoring content to the requirements, interests, and pace of learners.

AI and ITKS Integration in The Framework of NEP 2020

India's National Education Policy (2020) explicitly advocates for the convergence of cutting-edge technological tools with indigenous knowledge frameworks within educational reform initiatives. In line with NEP 2020, the combination of Artificial intelligence and Indian Traditional Knowledge system promotes:

- Cultural awareness and ethical education
- Fosters experiential and inquiry-based learning
- Supports technology innovation and research.

Challenges in Integrating AI with ITKS for Modern Competencies to address Contemporary Students

Although the combination of AI and ITKS has great potential, there are several challenges that must be thoughtfully addressed to mitigate potential risks and ensure equitable and meaningful learning.

1. Traditional Knowledge May Be Misinterpreted or Oversimplified

The most significant epistemological difficulty is this ITKS is frequently contextual, holistic, and passed down via guru-shishya traditions and personal experience.

- AI's Literal vs. Contextual Understanding: While AI models trained on books may extract facts or rules, they may overlook the underlying spiritual context, ethical framework, or philosophy. For instance, an AI may eliminate the Nyaya syllogism's dialectical goal of pursuing truth (pramā) and

simplify it to a simple logical formula.

- De-contextualization: Information from books like the Sushruta Samhita or the Arthashastra runs the risk of being portrayed as discrete historical facts rather than as a component of a vibrant, ongoing intellectual tradition. Stereotyping or a "textbook" comprehension of intricate systems like Ayurveda or Indian aesthetics may result from this.
- Loss of Nuance: It is challenging to translate the rich oral commentary, geographical variances, and interpretation disputes present in ITKS into structured data for AI. A monolithic, flattened form of a very heterogeneous knowledge corpus could be the end result.

2. Limited Access to Authentic Digitized Sources

High-quality, validated digital data is the foundation for developing efficient AI. ITKS has a significant infrastructure deficit here.

- Manuscripts vs. Datasets: Physical manuscripts, frequently in classical languages (Sanskrit, Pali, Tamil), nevertheless contain a sizable collection of ITKS. They require a lot of resources and are not fully digitized, transliterated, or translated into contemporary Indian languages.
- Quality and Curation: Not every digital source has academic commentary or has undergone peer review. Errors and prejudices will be spread by AI trained on uncritical or poorly sourced digital archives. It is a challenging endeavor that demands considerable scholarly input to distinguish canonical texts from later interpretations.
- Oral and Performative Knowledge: A large portion of ITKS is experiential and non-textual, including dance, artisan traditions, traditional medicine, and music (shastra and prayoga). AI needs sophisticated multimodal data (audio, video, and sensor data), which is hard to come by.

3. The Digital Gap and the Shortage of Qualified Teachers

If access and capacity are not addressed, the promise of AI-ITKS integration runs the risk of making already-existing disparities worse.

- Two-Level Structure: While rural or poor schools lack basic digital infrastructure, well-resourced metropolitan schools may implement cutting-edge AI platforms, widening the educational divide.
 - The role of the teacher as a crucial mediator the educator's involvement is crucial. Teachers require two types of training:
 1. Instructional Training: to successfully employ AI tools, decipher their results, and promote dialogue.
 2. Subject Knowledge: a fundamental grasp of ITKS principles to help students go beyond the results of the AI and clear up any misunderstandings. Such integrative teacher preparation is uncommon at the moment.
- Resistance to Change: Poor acceptance may result from educators' mistrust of technology or lack of familiarity with ITKS curriculum.

4. Ethical Issues with Data Privacy and AI Use

This integration works at the delicate nexus of technology, data, and culture.

- Cultural Appropriation & Commercialization: Proprietary AI platforms run the risk of

commercializing open ITKS knowledge without giving credit to or benefiting the source communities. AI models educated on this common heritage are profitable, but who "owns" them?

- **Learner Data Privacy:** AI systems gather a lot of student data (performance, engagement habits). Strict enforcement of strong, India-focused data protection laws, such as the Digital Personal Data Protection Act, is necessary to stop abuse.

- **Replacing vs. Augmenting:** Rather than replacing teachers or turning ITKS into an automated gamified module, the objective should be to employ AI to enhance human teaching and cultural understanding. The ethical design principle needs to be human-in-the-loop, with educators providing guidance and AI providing help.

Strategies for meeting Challenges in Integrating AI with ITKS

The successful integration of Artificial Intelligence (AI) with Indian Traditional Knowledge System (ITKS) calls for a systematic framework that encompasses technological, pedagogical, cultural, ethical, and institutional challenges.

1. Develop AI-Based ITKS Learning Platforms

- Create digital platforms that combine AI tools with authentic Indian Traditional Knowledge system resources.
- Provide interactive content, virtual learning activities, quizzes, simulations, and individualized learning pathways.

2. Use AI for student-centered Learning

- Use AI to identify individual learning needs, strengths, and difficulties.
- Provide students with customized learning materials and activities related to ITKS and contemporary competencies.

3. Connect ITKS with Modern Competencies

- Design activities that explicitly connect ITKS concepts with modern competencies.
- For example:
 - Nyaya and Tarka → critical thinking and logical reasoning
 - Yoga → self-regulation and well-being
 - Shilpa Shastra → creativity and design thinking
 - Gurukula → collaboration and mentorship
 - Traditional ecological knowledge → sustainability and environmental awareness

4. Promote Inquiry-Based Learning

- Use AI to generate questions, case studies, problems, and discussion topics based on ITKS.
- Encourage students to investigate, compare, analyse, and apply knowledge rather than simply memorize information.

5. Strengthen AI and Digital Literacy

- Teach students how AI works, its limitations, and how to verify AI-generated information.
- Encourage students to critically evaluate AI responses rather than accepting them

automatically.

6. Provide Continuous Teacher Training

- Organize professional-development programmes on AI tools, ITKS content, digital pedagogy, and ethical AI use.
- Teachers should be trained to use AI as a supportive tool while maintaining their role as facilitators and mentors.

7. Ensure Ethical and Responsible AI Use

- Establish clear guidelines regarding privacy, data protection, transparency, bias, and responsible use of AI.
- Student data should be handled carefully and only for legitimate educational purposes.

8. Promote Collaborative Learning

- Combine AI-supported activities with teacher-led discussions, peer learning, group projects, debates, and presentations.
- This ensures that technology supports rather than replaces human interaction.

9. Integrate ITKS into the Curriculum

- ITKS should not be treated as an isolated additional subject.
- Relevant ITKS concepts can be integrated into science, mathematics, languages, social sciences, arts, environmental education, and vocational education.

10. Develop Low-Cost and Accessible Solutions

- Design AI-ITKS resources that can function on affordable devices and with limited internet connectivity.
- This can help reduce inequalities in access to technology.

CONCLUSION

The integration of Artificial Intelligence (AI) and the Indian Traditional Knowledge System (ITKS) has significant implications for contemporary education by providing a holistic, competency-oriented, and culturally grounded approach to learning. Such integration can contribute to the development of a curriculum that incorporates not only academic knowledge and technological skills but also ethical values, cultural awareness, self-discipline, creativity, and holistic development. It can facilitate a shift from rote memorization towards inquiry-based, experiential, individualized, and problem-solving-oriented learning, while AI-supported assessment can place greater emphasis on modern competencies rather than merely measuring the recall of information. Furthermore, the integration of AI with ITKS can enable learners to develop reasoning thinking, creativity, collaboration, adaptability, digital competence, and ethical reasoning, thereby preparing them to participate effectively in a rapidly changing global environment without losing their cultural identity and values. AI can enhance accessibility, personalization, efficiency, and learning support, whereas ITKS can provide ethical foundations, holistic perspectives, cultural continuity, and human-centred dimensions to education. Thus, their meaningful and responsible integration can contribute to an educational framework that combines technological

advancement with human values and cultural rootedness. Such an approach is consistent with the vision of NEP 2020 and can support the preparation of learners to cope effectively with the academic, technological, social, ethical, and environmental challenges of contemporary society while contributing to responsible citizenship and sustainable development.

References

1. Sunanda, G. M. (2025). Lessons from Indian knowledge System (IKS) to our students using AI tools-Challenges ahead. Epitome: International Journal of Multidisciplinary research, 11(1), 1-9.
[https://www.epitomejournals.com/VolumeArticles/FullTextPDF/833_Research_Paper_\(74\).pdf](https://www.epitomejournals.com/VolumeArticles/FullTextPDF/833_Research_Paper_(74).pdf)
2. Maheshwari, D. (2024). A paradigm shift in Indian education: The role of NEP 2020 in promoting innovative pedagogy, AI integration and the Indian knowledge system. Indian e-Journal on Teacher Education (IEJTE), 11(1).
<https://iejte.org/wp-content/uploads/2024/10/73.pdf>
3. Varalakshmi, C. (Ed.), Dixit, P. R. (Ed.), Hashmi, R. (Ed.), Mir, S. Z. (Ed.), & Ved, P. (Ed.). (2024). *Transforming higher education through Indian knowledge systems* (Vol. 2). ISBN: 978-81-982331-1-0.
4. Cambridge Assessment. (2019). *The Cambridge approach to 21st century skills: Definitions, development and dilemmas for assessment*. Cambridge Assessment.
<https://www.cambridgeassessment.org.uk/Images/461811-the-cambridge-approachto-21st-century-skills-definitions-development-and-dilemmas-for-assessment-.pdf>
5. **Government of India. (2020).** *National Education Policy 2020*. Ministry of Education.

Disclaimer/Publisher's Note: The views, findings, and opinions expressed in this publication are solely those of the author(s). The publisher and editorial team are not responsible for any errors, claims, or consequences arising from the use of the published content.