

6.0 Role of Indian Knowledge System in Modern Education and Innovation

- **Indrapreet Kaur**, Research Scholar, Department of Education, University of Lucknow
Email- iamindpreet@gmail.com
- **Dr. Manjul Trivedi**, Assistant Professor, Department of Education, B.S.N.V. P. G. College, Lucknow

Abstract

*Indian knowledge system refers to a rich collection of intellectual traditions that have evolved from over thousands of years. It encompasses knowledge related to education, philosophy, science, medicine, mathematics, ecology, art, environment, social life, governance, and spirituality. Traditionally knowledge was passed both formally and informally to the students. At first the students learned through oral methods, post which they practiced by writing. Education followed a Guru-Shishya paddhati, where both lived and learned together in places called gurukuls. Knowledge was preserved in Vedas, Upanishads, Artha shastras, Yoga Sutras, Charaka Samhita and Sushruta Samhitas, which are considered some of the greatest key traditional sources. Modern education incorporates science and technology to make the process of teaching and learning more effective and meaningful. Involvement of IKS in Education can make learning very interesting and is also beneficial in preserving the Indian culture and traditions. The National Education Policy (NEP) 2020 includes IKS from primary classes to higher education. IKS supports a holistic approach as it integrates both body and mind. It also helps in critical thinking and self-inquiry. Well-being practices such as Yoga and meditation are gaining world recognition. Ancient mathematics (invention of zero and decimal system) laid the foundation for modern computation. Modern education strongly emphasizes on teacher-learner interaction which is already a core concept traditional Indian education system. NEP (2020) promotes **multidisciplinary and interdisciplinary education**. Integration of IKS into STEM (Science, Technology, Engineering, Mathematics) makes learning more culturally strong, interdisciplinary, and practical too. The purpose of the study is to find out the role of IKS in modern education and innovation. Content analysis and a review of literature are the different methods to write this paper. Post which it is established that inclusion of IKS in modern education and innovation help students connect to their values and traditions more effectively.*

Keywords- Indian Knowledge System, Modern Education, Innovation in Education

Introduction

Modern education emphasises on practical learning which helps in preparing for academic examinations and also to compete for day-to-day challenges. Life is not simple in today's world of science and technology. From chalkboard to whiteboard and now whiteboard to a smartboard, we are connected and at the same time have become overly dependent on technology. Today when we need to research on a specific topic, we do not hesitate and immediately take help from google search. We have YouTube, Google and so many websites where knowledge can be gained in just a few clicks. Now that we have AI

(Artificial Intelligence) which is again a brainchild of a human mind and is supposed to make life easier, however, it also brings a lot of new set of challenges. Everyone is trying to adjust with this new technology, but also facing so many problems like they feel their detachment with culture and tradition. Indian culture, traditions and education system are fading away, which is not acceptable because they hold the roots for a better future. NEP (National Education Policy - 2020) has also integrated modern education with Indian knowledge system (IKS). IKS, which is already known to have numerous advantages, is being gradually merged in modern education to further strength the entire education system. IKS and modern education can be taught with so many different methodologies but post integration will be the best idea.

“The roots of Indian Knowledge Systems go back to thousands of years — even before written history. This knowledge started during the Vedic period, when people began observing nature, the stars, the human body, and daily life closely. They shared their ideas through spoken words, which later got written down in texts like the Vedas, Upanishads, and other ancient scriptures.” Course (2025)

“Indian Knowledge System comprises of Gyan, Vigyan, Jivan-Darshan of the people of Bharat continuously arising out of deep experience, observation, experimentation and rigorous analysis, with a tradition of validating and putting into practice in several areas including education, arts, administration, law, justice, health, manufacturing, and commerce, documented in classical and other languages of Bharat, and transmitted through textual, oral and artistic traditions.” Ministry of Education (2024).

Gyan (Knowledge) - It can be gained from reading Shastras/Scriptures, listening to Guru/teacher, own experience, observation, self-study, Satsang (wise people’s company) etc. It builds critical awareness and provides basic and intellectual concept behind every situation.

Vigyan (Applied or Experiential Knowledge) - It was the realization of truth through direct perception, wisdom, and application of spiritual principles. When knowledge is gained, it is important to apply that in our practical life. Knowledge, observation and its application are the three major steps and should be followed to have a better life.

Jivan-Darshan (Philosophy of Life) - Jivan-Darshan refers to a comprehensive outlook on life that shapes human thought and behaviour. It brings together knowledge and lived experience with moral values, ethical principles, and a sense of purpose, enabling individuals to find meaning in life and to live in balance with themselves, society, nature, and the wider cosmos.

In Indian Knowledge Systems, Gyan provides understanding, Vigyan ensures application, and Jivan-Darshan offers direction and values, together shaping a balanced and meaningful life.

Core principles of IKS –

Ancient Indian knowledge is preserved carefully in various manuscripts and it is helping the world to understand the real meaning of education. Here are some core principles-

Parampara (Tradition and Continuity)- It means to keep our past knowledge alive for ever. Parampara means to pass the knowledge through the ages. This includes learning through stories, verbal teaching, textbooks, and daily life practices.

Drishti (Way of Thinking and Understanding)- Life is full of problems and Drishti helps in finding the path to solve a problem. Challenges make us strong and allow us to see the world in a unique Indian way.

Laukika-Prayojana (Practical Use)- It means to include ancient knowledge in new world scenarios. Applying methods of traditional knowledge in modern areas like health, education, technology etc show the significance of IKS in modern era.

Following are some other principles of IKS-

Holistic Approach - IKS integrates body, mind, culture and values together. It believes upon complete growth of a human that can make a person well educated.

Value based learning - IKS spreads the fragrance of discipline, respect of elders and self- beliefs etc. Moral values are so important to have a good life and Vedas, Upanishad etc teach all of that.

Teacher-Learner Relationship - IKS believes in a good relationship between teacher and students. Modern education needs that type of bond too.

Integration of subjects- IKS integrates all subjects which is important for living a practical life. Life is so complex and full of challenges which require a working solution for every problem. When subjects are taught after inclusion, it will be beneficial for the entire human race.

Research Questions-

- How facts of IKS can be beneficial in today's world?
- How IKS can keep Indian culture alive in this modern era?
- How present generation can be benefitted by including IKS in their curriculum?
- How IKS can be helpful in making present generation more disciplined and teach them moral values?

Research Objectives-

- To identify the role of IKS in the modern education.
- To find out the benefits of including IKS in modern education and innovations.
- To investigate the barriers in integrating IKS into the modern education system.

Methodology

Qualitative research design is used for this study and it is based on thorough examination of **secondary sources** such as peer-reviewed journals, academic books, research articles and official reports. Relevant information has been obtained through a **comprehensive review of literature**, and the findings have been explained using content analysis.

Teacher training- To provide proper and correct knowledge of IKS to students, NEP included the pedagogy with IKS information.

Benefits of including IKS in modern education and innovations-

- By combining traditional knowledge with modern science and technology, IKS encourages practical innovation and helps develop local solutions to present problems.
- Integrating IKS in contemporary schooling will give information about work done by our ancestors without any help of internet or AI. Present generation entirely depends on internet but after studying our past, they will feel proud to be an Indian.
- IKS encourages critical thinking, problem-solving, and creativity through inquiry-based and experiential learning methods, which would be beneficial to fight against critical problems.
- Trust, honesty, unity, ownership and responsibility are some of the major elements that should be incorporated in any education system to imbibe a sense of understanding true cultural values along with modern beliefs.
- This will also encourage emotional well-being and social responsibilities along with academic success.

Major challenges in implementing IKS

Indian Knowledge Systems (IKS) are not widely familiar concepts, and their introduction into present education requires careful preparation. Without well-trained teachers, the attempt could backfire, as incomplete or superficial knowledge can be harmful. Passing on India's traditional wisdom is a sensitive matter, and it must be taught with accuracy and depth.

Looking at today's curriculum, it is already lengthy and demanding, especially for younger children. Adding IKS without restructuring could increase both physical and mental pressure. A child's growth is hindered when learning becomes a burden. Therefore, IKS should be introduced gradually, beginning with higher education where it can be offered either as an integrated module or as a separate subject.

Language is another challenge. Many classical and regional dialects need to be understood properly, and teachers must be trained to convey the right concepts. At present, modern textbooks, storybooks, and classroom activities rarely reflect IKS ideas. Adequate resources and proper planning are essential before introducing it, particularly at the primary level. Parents may also resist the idea, since this is an era dominated by science and technology, and they may fear that IKS will add unnecessary load to their children's studies.

In higher education, problems are equally significant. The slow implementation of NEP 2020 guidelines has limited the effectiveness of IKS. Besides the shortage of trained teachers, other barriers include insufficient funding, weak structural aid, and the difficulty of learning classical languages such as Sanskrit, Pali, Persian, and Tamil. Since English is the global academic language, many people question the relevance of these older languages.

Assessment and evaluation also pose difficulties. IKS is rooted in philosophy and lived experience, which may not easily fit into modern grading systems. There is no standardized

research methodology for studying IKS critically, and scholars often struggle to find reliable material for their work. Some even dismiss IKS as outdated, especially in a world where artificial intelligence, science, and technology dominate learning.

Yet, it is important to recognize that a truly capable citizen should possess both modern scientific knowledge and an understanding of traditional wisdom. Science and technology drive progress, but Indian knowledge can shape character, values, and holistic thinking. Together, they can help individuals grow into not only responsible citizens of their country but also well-rounded individuals on the global stage.

Solution to address challenges –

To defeat these challenges, some strategies can be followed-

1. IKS should not be taught as an individual subject in school or colleges but must be integrated in maths, science, and other languages to avoid extra burden.
2. Teachers must be trained through special training that they can include IKS in their contemporary curriculum without any hesitation. IKS is not an easy concept to include in a curriculum as it requires in-depth knowledge of our culture and traditions. Teachers should have at least some knowledge of Sanskrit, Tamil, Pali, Persian as well. It may be helpful in completing the IKS mission.
3. Usage of technology such as audio-visual aids, smartphones, projectors, smart server, IP cameras and Artificial Intelligence etc. can spread the knowledge of IKS in the world so easily. Using resources like websites, apps, and online platforms can help save traditional knowledge and share it widely with more learners across the world, in simple and interesting ways.
4. By inviting local experts, traditional practitioners, and community members, schools can make learning more meaningful by connecting classroom teaching with real-life experiences and cultural traditions.
5. Research work, seminars, and discussions should be encouraged so that people understand the importance of Indian Knowledge Systems and accept them as a valuable part of education.

Opportunities after getting knowledge of IKS

1. Academic and research benefits- There is a requirement of trained and professional teachers in schools and colleges to spread the fragrance of our Indian culture. Researchers, Educators, Subject Experts and content creators will also get a new field to explore.
2. Interdisciplinary innovation- It will help people in using traditional knowledge along with modern subjects like science, technology, health, farming, environment, and management to develop newer ideas and more practical solutions.
3. In jobs and start-ups- There will be so many fields like yoga, ayurveda, architecture etc which would be more effective after having the knowledge of IKS.

4. Involvement in helping communities and addressing social issues- As IKS teach to integrate all the subject, it will be helpful in solving the problems in society like in NGO, local communities etc.
5. Protection and promotion of cultural heritage- There will be so many career opportunities in field like recording, translating, organizing, and digitally preserving traditional texts, cultural practices, and local knowledge.

Conclusion

After reviewing so many literatures and articles on IKS, it is analysed that inclusion of Indian Knowledge System in modern education is a great decision, which has already been taken by National Education Policy (2020). Involving IKS into modern education is not only to supply the knowledge of Indian culture and tradition but also to preserve it forever. Many important conceptions have been taken place in India, like cotton cultivation, and invention of zero, advanced metallurgy etc. Modern Education rely upon technology but integration of IKS will make it more meaningful and will also help in providing the moral values. Involvement of IKS in contemporary education includes problem solving, ethical awareness and critical thinking. In this way, IKS connects India with the ancient traditional patterns and modern changes equally.

Suggestions for future study

Important suggestions that can be followed for further research-

- To study the impact of technology on Indian Knowledge System.
- A comparative study between Indian Knowledge System and other Global knowledge Tradition.
- To explore effective models for training teachers to integrate IKS with modern pedagogy.
- A longitudinal study to understand the difficulties and benefits of applying NEP 2020 guidelines related to Indian Knowledge Systems at different levels of education.
- To examine whether learning IKS improves students' interest, creativity, and critical thinking.

References –

- Puri, J. (2025). IKS in Indian education: A transformative framework for cultural continuity and academic innovation. *Advances in Consumer Research*, 4, 4299–4307.
- Gaur, S. (2024). Integrating Indian knowledge systems into modern education: An analysis of the National Education Policy (NEP) 2020. *EPRA International Journal of Multidisciplinary Research (IJMR)*, 10(6), 519–521. <https://eprajournals.com/pdf/fm/jpanel/upload/2024/June/202406-01-017557>
- Rana, P., & Rana, S. (2025). A study on Indian knowledge system and NEP-2020. *International Journal of Innovative Research in Technology*, 11(8), 1741–1744. https://ijirt.org/publishedpaper/IJIRT172024_PAPER.pdf
- Kalsi, A. K., & Dhillon, S. S. (2025). From traditional to contemporary: Integrating Indian knowledge systems into STEM education to enhance higher-order thinking skills of secondary stage students. *International Journal of Advanced Academic Studies*, 7(4), 77–83. <https://doi.org/10.33545/27068919.2025.v7.i4b.1427>
- Map My Course. (2025, June 23). What is Indian knowledge systems (IKS)? – Meaning, principles & importance. <https://mapmycourse.in/what-is-indian-knowledge-system/>
- Indian Knowledge Systems Division. (2024, April). *IKS newsletter*. <https://iks.aicte-india.org/images/Newsletters-final-30-04-2024.pdf>
- Indian National Science Academy. (2018). *Indian knowledge systems*. <https://iksindia.org/>