



REVISITING INDIAN KNOWLEDGE SYSTEM THROUGH THE EDUCATIONAL PHILOSOPHY OF A.P.J. ABDUL KALAM

Moumita Gayen¹ & Dr. Sridipa Sinha²

RESEARCH ARTICLE



Author Details:

¹ Research Fellow, Department of Education, University of Calcutta, West Bengal, India; ² Professor, Department of Education, University of Calcutta, West Bengal, India

Corresponding Author:

Moumita Gayen

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Abstract

In the rapidly changing world of the 21st century, modern education has become increasingly market-driven and utilitarian which focusing only on materialistic success. As a result character degradation, mental instability and moral conflict are increasing among students. To solve these challenges, educationists worldwide deeply concentrated toward the Indian Knowledge System (IKS). In this context, the visionary educational thoughts of Dr. A.P.J. Abdul Kalam offer a highly realistic framework for reform. The objective of this article and research study is to provide a detailed analysis and understanding of the connection between Indigenous Knowledge Systems (IKS) as an 'integrated' knowledge system and Dr. Kalam's views on education. The literature review found that IKS is an all-encompassing fusion of science, metaphysics, and spirituality to achieve complete human growth and development. The main components of IKS are represented by 3 key historical constructs: 1) The Four Purusharthas; 2) The Panch Mahakosh; and 3) The Three R's (Religion, Resilience, and Responsibility) of the Gurukula model of education which aim to develop an integrated character that merges our needs in the world with the ethical principles of living. The study reveals that Dr. Kalam's educational thoughts are essentially an extended version of this ancient wisdom. He strongly advocated for value-based education that combines science with spirituality to create "enlightened citizens" who possess both technical expertise and moral honesty. Furthermore, striking parallels are found between modern digital IKS frameworks and Kalam's ideas; both emphasize that technology can never replace a teacher, and Kalam's PURA model directly mirrors current efforts to bridge the rural-urban educational divide through ethical technology. This paper demonstrates that integrating IKS principles with Kalam's vision provides a vital practical pathway to overcoming modern social crises and building an ideal, value-driven nation.

Keywords: *Indian Knowledge System (IKS), Dr. A.P.J Abdul Kalam, Value-Based Education, Holistic Development, Enlightened Citizens, PURA model*

Introduction

In the rapidly changing world of the 21st century, our education system is standing at a crucial stage where there is a need to rethink the main goal of education and teaching methods. The intensity of technological excellence, Artificial Intelligence, and economic competition has increased, but the crisis of human values has taken an immense place. Modern education has gradually become utilitarian and market-driven. Because of that, the main goal of education has become limited to work-oriented and materialistic success. As a result of this, problems in students like character degradation, mental instability, and moral conflict are increasing. In order to overcome these problems, worldwide educationists are gradually concentrating towards the Indian Knowledge System (IKS), and it is becoming very significant.

Indian Knowledge system (IKS) is rich and comprehensive knowledge base of ancient India. It is not only traditional learning but it's a combination in between science, philosophy and spirituality which can help to create a balanced life by human's physical, mental and moral development and character building'. Ancient Indian philosophy was not only limited to the sharing of information. The famous Sanskrit phrase "Sa Vidya Ya Vimuktaye" in Vishnu Purana, based on this Indian Knowledge System (IKS), emphasizes the holistic development of humans. Ancient Indian educational institutions like Nalanda and Taxila were not only centers of learning, rather they were institutions of self-realization and character development. In that time, education was a spontaneous process, not a process imposed from outside.

According to NEP 2020, special emphasis has been placed on integrating IKS with the modern education system. According to this policy, Ancient Indian Mathematics, astronomy, philosophy, Yoga, Ayurveda, agriculture, medicine, architecture, etc., must be included in the syllabus throughout schools and colleges to connect students with their traditions. NCF 2023 said that IKS must be applied practically as a foundation of the school education system. Instead of just limiting students to textbooks, we need to teach them ancient Indian stories (like the Panchatantra and Jataka tales), traditional games, and art. The whole point of this is to help them connect with their culture and roots right from childhood.

In the context of this modern educational crisis, one of the best space scientists, educational thinker, and former President of India, Dr. A.P.J. Abdul Kalam, proposed a very realistic and visionary education outline. His views on education were not only limited to textual knowledge. According to Kalam, "Education is the most powerful weapon which you can use... The purpose of education is to make good human beings with skill and expertise." According to Kalam, the main aim of education is to make 'Enlightened citizens', those who have honesty in their hearts and who are able to provide leadership to make a peaceful world. The educational thought of Kalam is not only a separate thinking, but it is the extended version of Ancient Indian Education. The main aim of this paper is to analyze that Kalam's educational thought and IKS have a deep and inseparable relationship.

Methodology

The present study is completely a qualitative and literature review based research. The main objective of this study is to assess the interrelationship and contemporary relevance between the Indian Knowledge System (IKS) and Dr. APJ Abdul Kalam's views on education. The secondary data has been collected from peer-reviewed journals from Google Scholar, ResearchGate, Inflibnet etc. This research only includes research paper published between 2023 and 2026 and Dr. Kalam's own written books as the source of data.

Literature Review

Dubey (2025) explores the key principles and concepts of IKS in his journal. He mentioned six primary concepts of IKS. The first one is the four Purusharthas (Dharma, Artha, Kama, Moksha), which provides a balanced and purposeful outline of human life, where worldly needs have been brought together with spiritual development in a structure. According to Vedant philosophy, there are five layers of human existence, that is Panch Mahakosh (Annamaya Kosha, Pranamaya Kosha, Manomaya Kosha, Vijnanamaya Kosha, and Anandamaya Kosha). For self-realization and spiritual development, he mentioned the Ashtangik Marg. From the cognitive approach, he classified knowledge as Para Vidya and Apara Vidya. He also mentioned Tri-Ratna and Trigunas. Lastly, he said that the concepts of IKS are not only ancient tradition, rather they are a functional pathway to solve many problems of human life, ethical living, and spiritual growth.

He stated that science provides infinite potential and advanced technological capabilities; however, when there are no human values associated with science, science could create destruction to our world. Therefore, when a scientist awakens to spiritualization, they will not use their discoveries to create destructive forces instead they will use the discoveries for human service.

Pareek (2025) discussed in his journal the role of digital technology in the conservation and promotion of the Indian Knowledge System. He showed that it is easily possible to impart ancient knowledge to students through personalized learning, visualization, and digital platforms. He stated that although there is a greater improvement in education through digital methods compared to traditional methods alone, for IKS, a mixed model of digital and traditional methods—or a hybrid method—is more effective. He also clearly mentioned that technology can never be an alternative to a teacher or traditional learning, it can only work as a teaching aid. Additionally, he mentioned the challenges of using technology, among which are the digital divide, lack of infrastructure, and issues of ethical and data security. To solve these problems, he emphasized increasing the accessibility of technology for rural and marginalized populations and promoting the ethical use of technology.

This research and Kalam's views on education have a deep and significant similarity. Where Pareek spoke of the digital divide, Kalam similarly dreamed of bridging the gap in education between rural and urban areas with the help of electronic connectivity through the PURA (Providing Urban Amenities to Rural Areas) model. Pareek's doctrine on the necessity of teachers in education is the same as Kalam's. Kalam believed that technology can never be an alternative to a teacher, because teachers are the main craftsmen of the students. Also, the ethical use of technology of Pareek's suggestion is closely related to Kalam's value-based education.

Mahesh et al. (2023) analyzed ancient Indian universities (Nalanda, Takshashila), the Gurukula educational system, and multidisciplinary education in their research. According to them, the Indian Knowledge System (IKS) is not only limited to traditional or theoretical knowledge, but it helps in building a balanced human character through the moral, physical, spiritual, and intellectual development of students. This research highlighted the 64 *Kalas* (arts), the relationship between guru and disciple in the ancient tradition, and the impartation of the 3Rs (Religion, Resilience, and Responsibility) to students through practical education.

This research stated that the ancient higher education institutions of India were not only centers of knowledge, but rather they were places of attraction for knowledge seekers from around the world. They emphasized the moral and humanistic qualities of ancient learning. Likewise, Kalam promoted the need for value-based education through a combination of science and spirituality. Kalam believed that the real purpose of education is to develop a character which is rich in fairness and honesty—which is a modern reflection of the 3Rs philosophy of the ancient Gurukula system.

The outline that researchers have given for building an innovative and ethical society in the light of the Indian Knowledge System (IKS) essentially provides a theoretical and practical basis for Kalam's dream of building a developed and ideal nation.

Barbhuiya (2025) presented in his study that IKS is not just ancient traditional knowledge, but an extremely contextual and dynamic structure of modern social life. According to him, the base of IKS is knowledge, science, and the philosophy of life, which creates a harmonious balance in people's physical, mental, emotional, and spiritual development. This study specifically emphasized basic practices like Dharma, Karma, Yoga, and Ahimsa, which teach the individual to be responsible not only towards themselves but also towards society and nature. The researcher clearly showed that these basic principles of IKS can work as effective tools to deal with the social isolation and environmental crises of the present era.

A remarkable similarity can be observed between this study of Barbhuiya and Dr. Kalam's educational philosophy and social thought. Kalam always spoke of an education system that not only builds professional skills but will develop honesty and morality in the hearts of the students.

Research Gap

Research Gap Existing studies have independently examined the Indian Knowledge System (IKS), value-based education, and Dr. A.P.J. Abdul Kalam's educational philosophy. Recent literature also discusses digital preservation of IKS and its role in holistic development. However, there is limited research that systematically examines the conceptual convergence between IKS principles and Dr. Kalam's educational thought within the framework of contemporary educational reforms such as NEP 2020 and teacher education. Existing studies mostly analyze these domains separately rather than exploring how their integration can address current educational challenges related to ethical decline, value crises, and holistic student development. This gap can lead to these research questions:

Research Questions

- What are the major principles of IKS and Dr. A.P.J. Abdul Kalam's educational philosophy?
- What similarities exist between IKS and Kalam's educational thought?
- How can integrating these perspectives contribute to contemporary educational reform?

Objectives of the Study

- To identify IKS have any influence on Kalam's ideas.
- To explore ways of integrating Kalam's ideas for propagation of IKS.

Discussion

➤ The influence of IKS on Kalam's ideas

Indian knowledge system is not only traditional textual knowledge, but it is a science of holistic and sustainable development of people. After reviewing Nalanda and Takshashila university curriculum, there was practiced spirituality as well as practical subjects like mathematics, medicine, politics and 64 kalas. The integration of 64 kalas of ancient education system, practical education and spirituality can prove that education is never fragmented. Education is seen as a product in modern education system but IKS taught us that technical and vocational skills should be built on ethical consciousness. As a result students not only become skilled worker, but they become responsible citizen.

The main aim of this system is - Shravana (listening), Manana (Reflection) and Nididhyasana (meditation), and to develop student's moral and intellectual development by this three steps. Judging from this perspective of epistemology, 'Shravana' is the data acquisition, 'Manana' is the critical analysis and 'Nididhyasana' is the internalisation and experiential application. This method makes cognitive flexibility in students, which is effective to solve real life problem rather than passing in the traditional examination system. It emphasized to build ethics, Resilience and responsibility in students.

Indian knowledge system (IKS) and Dr. Kalam's thought on education both emphasized on social welfare and human character building. The main purpose of IKS is education is not only a medium of earning, rather it a way of self-realisation and humanity. As same as Kalam's educational thought is interconnected with human values and progress of science and technology. Both IKS and Kalam was strongly opposed rote learning. In the 21st century, the era of AI, technological skill alone is losing its usefulness rapidly. Dr. Kalam's concept of 'Enlightened Citizen's' relevance is here. An enlightened citizen has the skill to apply moral reasoning as well as technological skill. This educational thought of Kalam is extended version of eternal philosophy of Indian Knowledge System, which confirm that the power of technology cannot suppress humanity.

The main point of present study is to identify similarity in between IKS and Kalam's educational thought. Where IKS give importance to student's holistic education, also Kalam emphasized on student's character building. Both saw teachers as an ideal man. The concept of Para Vidya and Apar Vidya of IKS is same as Kalam's concept of the combination of science and spirituality. Apar Vidya teaches us how to create anything or understand, but Para Vidya teaches us why we do the work. Without the answer of that 'why', scientific discovery lost its morality. For that reason Kalam believed that teacher's role is not limited as an information transmitter, but he must be upgraded to the facilitator of wisdom.

➤ Ways of integrating Kalam's ideas for the propagation of IKS

The integration of these two views can play a very effective role to reform teacher education and current NEP 2020. Kalam's value-based education and principles of IKS is very relevant in present day of moral degradation and mental crisis are occurring with the progress of technology.

In today's fast changing life students take so much stress for their grades and jobs. Present students' mental health crisis is mainly a sign of extreme competition and utilitarian system of education. If the 'Pancha Kosha' concept is added in present educational policy it can help students in balancing mental and spiritual stage rather than overloading their cognitive stress. As a result they forget about their moral values and they became selfish. We can solve this by using the concept of IKS in our education system. On the other hand we can say Kalam's thought on education is the modern reflection of ancient Indian Knowledge System (IKS). If we can bring both approaches in our classroom we can solve the crisis. Finally, it can be said that the combination in between IKS and Kalam's educational views is not going back to the past, but it is a progressive leap towards future. It can come out from the concept of survival of the fittest and transform into the welfare of all, which is essential for sustainable development.

Conclusion

Through this study, it becomes evident that ancient educational systems are not just chapters from history, rather it is very significant in the modern education system. When we study ancient learning systems such as the Gurukula tradition, we understand that education was always connected with discipline, observation, ethics, and life skills—not only with memorizing facts. In that sense, ancient education becomes a living guide for how individuals and communities should grow. Social development is not possible if we forget our ancient culture and roots, because values, social harmony, and respect for elders and nature are deeply rooted in that heritage. For example, the way traditional Indian knowledge treated rivers, forests, and seasons as sacred encouraged environmental responsibility long before modern concepts of sustainability became popular.

We get the idea of the integration of science and spirituality in the concept of IKS, which Dr. Kalam also spoke about. Researchers think this integration is essential because science has provided humanity with many facilities—such as medical advancements, communication technologies, and engineering solutions—yet technology alone cannot create a humane society. To develop society, values are important. For instance, when scientific progress is guided by compassion and integrity, it leads to better leadership, safer communities, and responsible innovation; however, when values are missing, even advanced tools can be used for harm. It can be said that modern education can never achieve completeness without ancient Indian philosophy and values, because philosophy gives purpose and direction to knowledge. Present education system has become dependent only on job and competition. So, to fill this gap IKS and Kalam's thought are very necessary, because these can teach us that the real purpose of the education is not only earn money, but self-realization and human development.

In addition, education has no value without morality and character development. A student may learn advanced theories, but without honesty, self-control, and respect, that learning remains incomplete. Dr. Kalam's dream of making 'Enlightened Citizen' will be successful when students will use their technological skills and scientific knowledge for the welfare of society. Valueless science can lead society to destruction. So if we connect modern education with ancient morality then this degradation is possible to prevent. Therefore, to develop character, science and knowledge must be combined, and learners should be encouraged to reflect on how knowledge influences their behaviour and choices in daily life. This study proves that IKS and Kalam's educational thought can work as an extremely realistic and effective practical framework to meet the goals of present educational policy.

Finally, this is not just a study, but a clear guideline for shaping life. It suggests that every generation should carry forward the depth of Ancient Knowledge while still embracing modern science as a tool for solving current problems. If we connect the depth of Ancient Knowledge with modern science then it will be possible to build a beautiful, tolerant and progressive future. The ancient education system is not only a dead history, but it can be a living tool to cope with the social and psychological crisis of modern era. It is possible to create a strong and ideal nation by combining ancient philosophy and modern technology.

Implications of the Study

- **Value-based education:** The integration of both Educational thought can help to build moral and humanity in students instead of blind competition to get numbers. Policymakers must design such a curriculum where evaluation is not only based on exam paper marks, but there is a system for evaluation of student's morality, sympathy and social responsibility.
- **Combination of science and Spirituality:** Students must be taught morality as well as science and technology in classroom. So that they can use their skills in human welfare, instead of destructive purpose. In the present era how fast technology and AI is moving, it should be mandatory to combine Kalam's concept of spiritual science with technical education. As a result of this, problems like misuse of technology or cybercrime in society can be reduced. Students learn to innovate responsibly to build a better society.
- **The highest role of the teachers:** In this modern technological era teachers must be in the centre of education. They will work as guide or mentor and AI will work only as a helper. For this the philosophy of 'Gurukula System' of IKS is very important to include in present teacher education programmes. Teachers should not only be data transmitters, they should become character builder for students. So, teacher's training programme must be created in the combination of ancient values and modern teaching method.
- **Holistic Development:** These two educational thoughts not only applicable for student's intellectual development in classroom, but it will confirm student's physical, Mental and spiritual development. IKS can solve the problem of additional competition of modern education system, where excessive anxiety and depression appears in students. By applying ancient

Indian meditation, yoga and Kalam's views of life, it is possible to improve student's mental health and resilience, which is very important in today's fast changing world.

- **Eliminating discrimination in education system:** Reducing the discrimination between educational system of rural and urban area is a crucial aspect of this study. Dr. Kalam's PURA Model, both modern knowledge and the knowledge of IKS can be delivered equally to every student by using technology properly. Using internet and various digital platforms to spread this knowledge can reduce digital divide in education, which is one of the main goals of present educational policy.

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