



## EDUCATIONAL VISION AND CONTRIBUTIONS OF A. P. J. ABDUL KALAM AND RELEVANCE TO MODERN INDIAN EDUCATION IN THE CONTEXT OF NEP 2020

Md. Dablu Sk <sup>1</sup> & Dr. Dilip Kumar Mondal <sup>2</sup>

### RESEARCH ARTICLE



#### Author Details:

<sup>1</sup> Research Scholar,  
Department of Education,  
West Bengal State University,  
Barasat, West Bengal, India;

<sup>2</sup> Associate Professor & Head,  
Department of Education,  
Mrinalini Datta Mahavidyapith,  
Birati, West Bengal, India

#### Corresponding Author:

Md. Dablu Sk

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#### Abstract

The educational ideas of A. P. J. Abdul Kalam have played an important role in shaping modern perspectives on education and national development in India. Dr. Kalam believed that education should not be limited to the acquisition of knowledge but should also promote creativity, innovation, scientific thinking, and strong moral values among learners. The present study examines the educational vision and contributions of Dr. Kalam and analyzes their relevance to the contemporary Indian education system in the context of the National Education Policy 2020. The study adopts a qualitative and descriptive research approach and is based mainly on secondary sources such as books, research articles, journals, and official documents related to Dr. Kalam's educational philosophy and educational reforms in India. The analysis highlights Dr. Kalam's views on holistic development, skill-based education, value-oriented learning, technological integration, and the crucial role of teachers in shaping the future of students. The findings indicate that many of Dr. Kalam's educational ideas closely correspond with the principles and objectives of NEP 2020, particularly its focus on multidisciplinary learning, experiential education, innovation, and the integration of technology in teaching-learning processes. The study concludes that Dr. Kalam's educational vision continues to offer valuable guidance for strengthening the Indian education system and for achieving the broader goals of national development and knowledge-based growth.

**Keywords:** *Educational Vision, A. P. J. Abdul Kalam, Modern Indian Education, National Education Policy 2020, Skill-based Learning, Value-based Education*

#### Introduction

Education has always been considered one of the most powerful instruments for the progress and development of a nation. In the modern world, education is not limited to the transmission of knowledge alone; it also aims at developing creativity, critical thinking, scientific attitude, and moral values among learners. A strong and progressive education system helps in building responsible citizens who can contribute meaningfully to the growth of society and the nation. In India, educational reforms have been continuously introduced to make the system more dynamic, inclusive, and relevant to the changing needs of the twenty-first century. A major step in this direction is the introduction of the National Education Policy 2020, which focuses on holistic development, multidisciplinary learning, skill development, innovation, and research-oriented education.

In the context of educational development in India, the ideas and vision of A. P. J. Abdul Kalam hold a special significance. Dr. Kalam was not only a renowned scientist and the former President of India but also a passionate advocate of education and youth development. He strongly believed that the future of the nation lies in the hands of young people and that education plays a crucial role in shaping their minds and character. According to him, education should inspire students to think creatively, develop a spirit of inquiry, and cultivate the confidence to transform their dreams into reality.

Dr. Kalam emphasized the importance of science and technology in education while at the same time highlighting the need for value-based learning. He believed that an effective education system should nurture curiosity, encourage innovation, and prepare learners to face real-life challenges. He often stressed the role of teachers as mentors who can ignite the minds of students and guide them towards becoming responsible and capable citizens. His vision of education was closely connected with the idea of building a knowledge-based society where young people are empowered with skills, creativity, and a strong sense of social responsibility.

Many of the principles advocated by Dr. Kalam are reflected in the goals and objectives of the National Education Policy 2020. The policy aims to transform the Indian education system by promoting experiential learning, critical thinking, technological integration, and research culture. It also emphasizes the development of students' overall personality by focusing on intellectual,

emotional, ethical, and social dimensions of learning. In this regard, the educational ideas of Dr. Kalam appear highly relevant in guiding the implementation of such reforms.

Therefore, understanding the educational vision and contributions of Dr. A. P. J. Abdul Kalam becomes important in the present context of educational transformation in India. His ideas continue to inspire educators, policymakers, and students in building an education system that encourages innovation, creativity, and national development. The present study attempts to examine the educational vision and contributions of Dr. Kalam and explore their relevance to the modern education system of India, particularly in the context of the National Education Policy 2020. Through this analysis, the study seeks to highlight how his educational thoughts can support the development of a progressive, inclusive, and knowledge-driven educational framework in India.

### **Review of Related Literature**

The review of related literature is an essential part of any research as it helps to understand the existing body of knowledge related to the study and provides a theoretical foundation for further investigation. In the context of educational development in India, the ideas and contributions of A. P. J. Abdul Kalam have attracted considerable attention from researchers and scholars. His vision of education emphasized the integration of science, technology, moral values, and innovation for national development. Many scholars have examined his educational philosophy, particularly his emphasis on skill-based learning, technological integration, value-oriented education, and the role of teachers in shaping responsible citizens. These ideas are also closely aligned with the objectives of the National Education Policy 2020, which aims to transform the Indian education system by promoting holistic, multidisciplinary, and technology-driven learning. The following studies provide important insights into Dr. Kalam's educational vision and its relevance to the modern education system in India.

Aslam, (2017), examined the educational vision of A. P. J. Abdul Kalam and highlighted his strong belief in education as a fundamental driver of national development and prosperity. The study notes that through his *Vision 2020* initiative, Dr. Kalam envisioned transforming India into a developed nation by prioritizing education and information technology. Aslam emphasized that Dr. Kalam advocated for skill-oriented and technology-enhanced education, along with the creation of virtual universities and virtual classrooms to expand learning opportunities. He also believed that the education system should nurture individuals who can become job creators rather than merely job seekers. The study further highlighted Dr. Kalam's views on the crucial role of teachers in shaping the character and future of students and his emphasis on encouraging curiosity, questioning, and value-based learning. According to Aslam, Dr. Kalam's educational philosophy integrates traditional values with modern scientific and technological knowledge, aiming to develop responsible, confident, and nation-building citizens.

Pareek, (2017), examined the educational vision of A. P. J. Abdul Kalam and highlighted his belief that education is a key factor in the growth and prosperity of a nation. The study discussed Dr. Kalam's *Vision 2020*, which aimed to transform India into a developed country through the advancement of education and information technology. Pareek noted that Dr. Kalam strongly supported skill-based and technology-driven education and emphasized the need to provide quality education to underprivileged sections of society. He also stressed the importance of effective teachers who encourage students to ask questions and think independently. Furthermore, the study pointed out Dr. Kalam's ideas about establishing virtual universities and virtual classrooms and designing an education system that promotes entrepreneurship by creating job generators rather than only job seekers.

Kaur and Dash, (2018), examined the educational philosophy of A. P. J. Abdul Kalam in relation to the modern education system. The study highlighted his strong emphasis on science and technology as essential components for national development and for building a progressive education system. The authors noted that Dr. Kalam believed teachers should continuously engage in research and learning to remain effective educators. They also discussed the need for reforms in the examination system to enhance its credibility and effectiveness. Furthermore, it emphasized Dr. Kalam's contributions to curriculum development, moral and value-based education, science education, women's education, and the use of modern learning technologies such as virtual laboratories and virtual universities, which remain relevant in contemporary education.

Mallik, (2024), examined the educational ideas and contributions of A. P. J. Abdul Kalam towards the development of the modern education system in India. The study describes Dr. Kalam as a visionary scientist, educator, and social reformer who strongly believed that education is a key instrument for national development. During his presidency, he emphasized the importance of education and information technology in shaping a technologically advanced India. Mallik highlighted that Dr. Kalam advocated for skill-based, technology-supported, and innovation-oriented education that encourages creativity and scientific thinking among students. He also proposed the development of virtual universities and virtual classrooms to expand access to quality education. Furthermore, Dr. Kalam believed that the education system should nurture job creators rather than only job seekers, thereby contributing to economic and technological progress. The study also pointed out his significant contributions in areas such as curriculum development, science education, women's education, moral education, and the use of digital learning tools like virtual laboratories, which continue to hold strong relevance in the contemporary Indian education system.

Gurjar and Sharma, (2025), analyzed the educational philosophy of A. P. J. Abdul Kalam in relation to the contemporary education system. The study emphasizes that strengthening education is essential for social progress, and in this regard, Dr. Kalam's educational ideas provide meaningful guidance. According to the authors, Dr. Kalam envisioned a globally oriented education system capable of developing disciplined, hardworking, honest, and patriotic citizens. His philosophy highlighted the importance of science and technological learning while maintaining a balance between traditional values and modern educational

practices. The study further examined his views on important educational aspects such as curriculum development, moral education, women's education, and scientific education, concluding that his educational philosophy continues to offer valuable insights for improving the modern education system.

Although several studies have examined the educational philosophy and ideas of A. P. J. Abdul Kalam, most of them primarily focus on his vision for national development, scientific advancement, and youth empowerment. However, only limited studies have specifically analyzed the relevance of his educational ideas in relation to recent educational reforms in India. In particular, there is a lack of focused research examining how Dr. Kalam's educational philosophy corresponds with the principles and objectives of the National Education Policy 2020. Therefore, the present study attempts to bridge this gap by analyzing Dr. Kalam's educational vision and contributions and exploring their relevance to the modern Indian education system in the context of NEP 2020.

### **Objectives of the Study**

1. To examine the educational vision and philosophical ideas of A. P. J. Abdul Kalam.
2. To analyze the major contributions of A. P. J. Abdul Kalam to the development of the modern education system in India.
3. To explore the relevance of Dr. Kalam's educational ideas—such as skill-based learning, scientific education, value education, and technology integration—in contemporary Indian education.
4. To analyze the relevance of Dr. Kalam's educational vision in relation to the objectives and implementation of the National Education Policy 2020.

### **Research Questions**

1. What are the major features of the educational vision and philosophy of A. P. J. Abdul Kalam?
2. What significant contributions did Dr. Kalam make towards the development of the modern education system in India?
3. How are Dr. Kalam's educational ideas relevant to the present context of Indian education?
4. In what ways do the educational ideas of Dr. Kalam correspond with the goals and principles of the National Education Policy 2020?

### **Methodology of the Study**

The present study adopts a qualitative and descriptive research approach and is mainly based on secondary sources of data. The purpose of the study is to examine the educational vision and contributions of A. P. J. Abdul Kalam and analyze their relevance to the modern Indian education system, particularly in the context of the National Education Policy 2020. The data for the study have been collected from various secondary sources such as books written by Dr. Kalam, scholarly articles, research papers, academic journals, government documents, and reports related to his educational ideas and philosophy. The collected information was carefully reviewed and analyzed through content analysis and interpretative methods in order to identify the key themes of Dr. Kalam's educational thought, including his emphasis on scientific learning, skill development, value-based education, technological integration, and the role of teachers in nation-building. The analysis also examines how these educational ideas correspond with the principles and objectives of NEP 2020 and their relevance in strengthening the contemporary education system in India.

### **Educational Thoughts of A. P. J. Abdul Kalam**

The educational philosophy of A. P. J. Abdul Kalam reflects his strong belief that education is a powerful tool for national development and social transformation. He viewed education not simply as the transmission of knowledge but as a process that nurtures creativity, innovation, moral values, and scientific thinking among young minds. According to him, education should inspire students to dream big, think independently, and contribute positively to society. His ideas about holistic development, skill-based learning, technological advancement, and value-oriented education remain highly relevant today. Many of these principles are closely aligned with the goals and vision of the National Education Policy 2020, which seeks to reform and modernize the Indian education system.

**Aims of Modern Education:** Dr. Kalam believed that the main aim of modern education should be the holistic development of individuals. Education should develop not only intellectual abilities but also creativity, critical thinking, leadership qualities, and moral values among students. He emphasized that education should prepare young people to face real-life challenges and contribute to national progress. According to him, learners should be encouraged to think innovatively, solve problems, and develop a scientific attitude toward life. Education must also nurture responsible citizens who possess a strong sense of social responsibility and national commitment. This vision is reflected in the National Education Policy 2020, which emphasizes holistic and multidisciplinary education aimed at developing critical thinking, creativity, and overall personality development of learners.

**Curriculum:** Dr. Kalam emphasized that the curriculum should be flexible, innovative, and closely connected with real-life experiences. He believed that education should not remain limited to theoretical knowledge but should include practical learning, scientific exploration, and creative activities. A balanced curriculum should integrate science, technology, values, and skill development so that students can develop both intellectual and practical abilities. He also believed that the curriculum should encourage research, innovation, environmental awareness, and entrepreneurship among learners. These ideas are reflected in the

National Education Policy 2020, which promotes a flexible and multidisciplinary curriculum along with experiential learning and skill-based education.

**Teaching Methods and Medium of Instruction:** Dr. Kalam strongly advocated learner-centered and activity-based teaching methods. According to him, the teaching-learning process should encourage curiosity, questioning, experimentation, and creative thinking rather than rote memorization. He believed that teachers should use discussions, projects, practical activities, and technological tools to make learning more interesting and effective. Kalam also emphasized that children understand concepts better when they are taught in a language familiar to them, especially during the early stages of education. This approach is reflected in the National Education Policy 2020, which encourages experiential learning, interactive pedagogy, and the use of mother tongue or regional language as the medium of instruction in early education.

**Thoughts about Teachers:** Dr. Kalam regarded teachers as the backbone of the education system and believed that they play a crucial role in shaping the future of the nation. According to him, a teacher should not only transmit knowledge but also inspire, motivate, and guide students toward achieving their dreams. Teachers should possess dedication, creativity, and a deep commitment to nurturing young minds. He believed that teachers must act as mentors and role models who encourage curiosity, innovation, and moral values among students. This vision is reflected in the National Education Policy 2020, which emphasizes teacher empowerment, continuous professional development, and the role of teachers as facilitators of learning.

**Thoughts about Students:** Dr. Kalam believed that students are the most valuable resource of a nation and that every child possesses unique potential and creativity. He encouraged students to develop curiosity, discipline, determination, and a strong desire to learn. According to him, students should be motivated to ask questions, explore new ideas, and develop innovative thinking. He often inspired young people to dream big and work hard to achieve their goals, believing that education should empower them with knowledge, skills, and values necessary for personal and national development. This perspective is reflected in the National Education Policy 2020, which promotes student-centered education and focuses on nurturing the unique abilities and talents of every learner.

**Role of Schools:** Dr. Kalam believed that schools play a fundamental role in shaping the character and personality of students. Schools should not only focus on academic achievement but also create an environment that promotes creativity, innovation, and collaboration. According to him, schools should inspire students to develop leadership qualities, social awareness, and a sense of responsibility toward society. A positive and supportive school environment can motivate students to learn with enthusiasm and confidence. This idea is reflected in the National Education Policy 2020, which aims to create inclusive, student-friendly schools that support holistic development and innovative learning practices.

**Discipline, Value and Moral Education:** Dr. Kalam strongly believed that discipline and moral values are essential for the development of responsible individuals and a strong nation. According to him, education should cultivate qualities such as honesty, integrity, respect, compassion, and responsibility among students. He emphasized that value-based education helps in developing good character and ethical behavior, which are necessary for maintaining harmony and progress in society. Education should therefore focus not only on academic excellence but also on the moral and ethical development of students. These principles are reflected in the National Education Policy 2020, which emphasizes value-based education, ethical reasoning, and the development of responsible and socially aware citizens.

**Modern Classrooms and Laboratories:** Dr. Kalam emphasized the importance of modern educational infrastructure, including well-equipped classrooms and laboratories, for effective learning. He believed that technology and scientific resources should be integrated into the education system to make learning more practical, interactive, and innovative. Modern classrooms supported by digital tools, virtual laboratories, and technological resources can enhance students' understanding and encourage experimentation and research. Such learning environments help students develop scientific skills and prepare them for the challenges of the modern technological world. This vision is reflected in the National Education Policy 2020, which promotes the integration of digital technology, virtual labs, and modern educational tools to strengthen the teaching-learning process.

### **Major Contributions of A. P. J. Abdul Kalam to Education**

A. P. J. Abdul Kalam made remarkable contributions to the development of education in India through his vision, leadership, and continuous engagement with young learners. He strongly believed that the true strength of a nation lies in the creativity and knowledge of its youth. One of his major contributions was his effort to inspire students to develop scientific thinking and innovative ideas. Through his speeches, writings, and interactions with students across the country, he consistently encouraged young people to dream big and work towards national development. Kalam also emphasized the importance of research, technology, and practical knowledge in education. He advocated for integrating science and technology into the teaching-learning process so that students could acquire skills relevant to the modern world. In addition, he promoted value-based education, leadership development, and the cultivation of moral responsibility among students. His initiatives and ideas significantly influenced discussions on educational reforms and contributed to shaping a more modern and progressive education system in India.

### **Relevance of Kalam's Educational Vision in Contemporary Indian Education**

The educational vision of A. P. J. Abdul Kalam remains highly relevant in the present context of Indian education. In an era characterized by rapid technological advancement and global competition, his emphasis on creativity, innovation, and scientific temper is particularly significant. Kalam believed that education should equip students with practical skills, critical thinking

abilities, and ethical values that enable them to solve real-life problems and contribute positively to society. His ideas about skill-based learning, research-oriented education, and the use of technology in classrooms correspond closely with the needs of contemporary education. Furthermore, his belief in nurturing curiosity, self-confidence, and a spirit of inquiry among students highlights the importance of learner-centered education. These ideas continue to guide educators and policymakers who aim to create an education system that prepares students for both national development and global challenges.

### **Reflection of Kalam's Educational Ideas in the National Education Policy 2020**

Several principles advocated by A. P. J. Abdul Kalam can be clearly observed in the vision and objectives of the National Education Policy 2020. The policy emphasizes holistic development, multidisciplinary learning, creativity, and critical thinking, which align closely with Kalam's belief that education should nurture the overall personality of learners. The policy also promotes skill development, experiential learning, and the integration of technology in education, reflecting Kalam's emphasis on practical knowledge and scientific advancement. Moreover, the focus on value-based education, ethical awareness, and responsible citizenship within NEP 2020 resonates with Kalam's idea that education should develop not only intellectual abilities but also strong moral character. Thus, many of the reforms proposed in NEP 2020 can be understood as being consistent with the educational ideals and aspirations that Kalam envisioned for India.

### **Implications for the Future of Indian Education**

The educational philosophy of A. P. J. Abdul Kalam offers important insights for the future development of the Indian education system. His emphasis on innovation, creativity, and research suggests that educational institutions must move beyond traditional rote-learning methods and adopt more interactive and practical approaches to learning. Schools and universities should encourage students to participate in scientific experiments, technological innovation, and problem-solving activities. Additionally, Kalam's focus on moral values and social responsibility indicates that education should aim to develop individuals who are not only knowledgeable but also ethical and socially conscious. By adopting these principles, the Indian education system can create a learning environment that prepares students to contribute effectively to national progress and global development.

### **Results and Discussion**

The findings of the present study are closely related to the objectives formulated for the research. With respect to the first objective, the analysis revealed that the educational philosophy of A. P. J. Abdul Kalam strongly emphasized holistic development, creativity, innovation, and scientific thinking among students. He believed that education should nurture intellectual growth as well as moral values, leadership qualities, and a sense of social responsibility.

In relation to the second objective, the study identified several important contributions made by Dr. Kalam toward the development of modern education in India. Through his writings, speeches, and direct interaction with students and educators, he consistently encouraged the promotion of research, technological learning, and innovation in educational institutions. His advocacy for integrating science and technology into education played a significant role in shaping educational discussions and reforms in India.

Regarding the third objective, the findings indicate that Dr. Kalam's educational ideas remain highly relevant in the present context of Indian education. His emphasis on skill-based learning, scientific education, value-based education, and the integration of technology aligns closely with the needs of contemporary society and the demands of a rapidly changing global environment. Finally, in relation to the fourth objective, the study observed that several principles advocated by Dr. Kalam are reflected in the vision and framework of the National Education Policy 2020. The policy's emphasis on holistic learning, multidisciplinary education, skill development, technological integration, and value-based education corresponds closely with Dr. Kalam's educational vision. Therefore, the successful implementation of NEP 2020 can contribute significantly to realizing his vision of building a knowledge-based and innovative society in India.

### **Conclusion**

The present study examined the educational vision and contributions of A. P. J. Abdul Kalam and analyzed their relevance to modern Indian education in the context of the National Education Policy 2020. The study found that Dr. Kalam's educational philosophy emphasized creativity, innovation, scientific thinking, and value-based learning as essential components for the development of individuals and society. His ideas highlighted the importance of empowering young people with knowledge, skills, and ethical values so that they can actively contribute to national development.

The study also revealed that Dr. Kalam made significant contributions to the advancement of modern education through his ideas, writings, and engagement with students and educational institutions. His emphasis on research, technological learning, and innovation continues to influence educational thinking in India.

Furthermore, the analysis indicates that many of Dr. Kalam's educational ideas remain highly relevant in contemporary education. Concepts such as skill-based learning, technological integration, creativity, and value-oriented education are essential for addressing the challenges of the twenty-first century.

Finally, the study concludes that the principles and objectives of the National Education Policy 2020 reflect several aspects of Dr. Kalam's educational vision. Therefore, the effective implementation of NEP 2020 can help realize Dr. Kalam's dream of developing an education system that nurtures innovative, ethical, and responsible citizens capable of contributing to the progress of India and the global community.

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