



## PHILOSOPHICAL FOUNDATIONS OF EDUCATIONAL TRANSFORMATION: A COMPARATIVE STUDY OF DR. A. P. J. ABDUL KALAM AND MAHATMA GANDHI

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### RESEARCH ARTICLE



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#### Abstract

This study presents a comparative analysis of the philosophical foundations of Dr. A. P. J. Abdul Kalam and Mahatma Gandhi in the context of educational transformation. Using a qualitative, descriptive, and analytical approach based on secondary sources, the study examines key dimensions such as aims of education, role of science and technology, value-based education, and pedagogical perspectives. The findings indicate that while Kalam emphasizes innovation, scientific temper, and technology-based learning for national development, Gandhi advocates a value-oriented, experiential, and self-reliant model of education focused on moral and social development. Despite their differences, both thinkers converge on the idea of holistic development and education as a tool for societal progress. The study concludes that an integrated approach combining technological advancement with ethical values can contribute to a more balanced and transformative educational framework in the contemporary era.

**Keywords:** *Educational Transformation, Value-Based Education, Science and Technology, Nai Talim, Holistic Development*

### Introduction

Education plays a pivotal role in shaping individuals and transforming societies. In the contemporary era, marked by rapid technological advancement and socio-cultural change, the need for educational transformation has become more significant than ever. Educational transformation not only involves structural and curricular reforms but also emphasizes the development of values, skills, creativity, and critical thinking necessary for holistic human development. In this context, the educational visions of Dr. A. P. J. Abdul Kalam and Mahatma Gandhi offer profound insights into rethinking education for a better future.

Dr. A. P. J. Abdul Kalam envisioned education as a powerful instrument for innovation, scientific temper, and national progress. He strongly advocated for a learner-centered approach that integrates science and technology with moral values, aiming to create responsible and self-reliant citizens. His emphasis on creativity, inquiry-based learning, and the development of a knowledge society reflects the demands of modern educational transformation (Kalam, 2003). Kalam believed that education should ignite young minds and prepare them to face global challenges with confidence and competence.

In contrast, Mahatma Gandhi proposed a holistic and value-oriented system of education, commonly known as “*Nai Talim*” or Basic Education. His philosophy centered on the integration of head, heart, and hand, promoting dignity of labour, self-sufficiency, and moral development. Gandhi emphasized experiential learning through productive work and aimed to make education relevant to rural life and social realities (Gandhi, 1937/1962). His vision aligns with transformative education by focusing on character building, social responsibility, and sustainable living.

A comparative analysis of these two eminent thinkers reveals both convergences and divergences in their educational approaches. While Kalam’s vision is rooted in modern science and technological advancement, Gandhi’s philosophy underscores ethical values and experiential learning. However, both share a common goal of transforming education into a tool for individual empowerment and societal progress. Therefore, examining their perspectives in the context of educational transformation provides valuable insights for developing a balanced and inclusive educational framework in the present era.

### Review of Literature

The review of literature provides a critical understanding of existing studies related to the educational philosophies of Mahatma Gandhi and Dr. A. P. J. Abdul Kalam. It helps in identifying key themes such as value-based education, technological

advancement, holistic development, and policy relevance. Moreover, it offers insights into how these educational ideas have been interpreted in contemporary contexts, thereby establishing a foundation for the present comparative study.

Khatoon and Munawwar, (2023) examined the relevance of the educational thoughts of Mahatma Gandhi and Dr. A. P. J. Abdul Kalam in the context of the National Education Policy (NEP) 2020. Their study highlights that NEP 2020 emphasizes digital transformation in education, which closely aligns with Kalam's vision of a technologically empowered and knowledge-driven India, as articulated in Vision 2020. At the same time, the policy's focus on value-based education reflects Gandhi's emphasis on moral and character development. The researchers found significant convergence between the philosophical perspectives of both thinkers and the objectives of NEP 2020, particularly in fostering holistic development and essential 21st-century skills among learners. The study further concludes that NEP 2020 represents a comprehensive and forward-looking educational framework, whose effective implementation is crucial for achieving meaningful educational transformation.

Dutt and Singh, (2023) explored the educational vision of Mahatma Gandhi, highlighting his role not only as a national leader but also as a significant educational reformer. Their study focuses on Gandhi's concept of *Nai Talim* or Basic Education, which advocates an inclusive and activity-based system of learning closely connected with the socio-economic conditions of rural life. The authors emphasize key elements of his philosophy, such as learning through productive work, self-reliance, and the integration of moral values with education. The study further underlines the continuing relevance of Gandhi's educational ideas in contemporary times, particularly in promoting holistic development and aligning education with real-life needs.

Chand, (2016) examined the educational views of Mahatma Gandhi, emphasizing his belief in education as a powerful means for developing a holistic and peace-oriented human personality. The study highlights that Gandhi viewed education as an instrument for cultivating moral strength and enabling individuals to resist violence, injustice, and oppression while fostering harmony in society. His philosophy focused on the balanced development of body, mind, and spirit, reflecting the broader goal of "man-making" and social reconstruction. Chand further noted that Gandhian educational thought, though rich in humanistic and social values, has not received adequate attention in policy frameworks over the past decades. However, the study recognizes the growing global relevance of his ideas, particularly in addressing issues of inequality and promoting inclusive education through an indigenous and need-based approach aimed at uplifting the weakest sections of society.

### Research Gap

Although several studies have examined the educational philosophies of Mahatma Gandhi and Dr. A. P. J. Abdul Kalam individually, and a few have explored their relevance in contemporary educational policies such as NEP 2020, there is a noticeable lack of comprehensive comparative research focusing on their visions within the framework of educational transformation. Existing literature tends to emphasize either value-based education or technological advancement in isolation, without integrating both perspectives. Furthermore, limited attention has been given to systematically analyzing the similarities and differences between these two thinkers in shaping a balanced, future-oriented educational model. Therefore, the present study attempts to bridge this gap by offering a comparative analysis of their educational visions with specific reference to the concept of educational transformation.

### Objectives of the Study

1. To examine the educational philosophy of Dr. A. P. J. Abdul Kalam.
2. To analyze the educational philosophy of Mahatma Gandhi.
3. To compare the similarities and differences in their educational ideas.
4. To assess the relevance of their educational visions in the context of educational transformation.

### Research Questions

1. What are the key features of the educational philosophy of Dr. A. P. J. Abdul Kalam?
2. What are the fundamental principles of the educational philosophy of Mahatma Gandhi?
3. What similarities and differences exist between their educational perspectives?
4. How can their educational ideas contribute to contemporary educational transformation?

### Methodology of the Study

**Research Design:** The present study adopts a qualitative, descriptive, and analytical research design to explore and compare the educational philosophies of Dr. A. P. J. Abdul Kalam and Mahatma Gandhi. The qualitative approach facilitates an in-depth interpretation of their philosophical ideas, while the descriptive method helps in systematically presenting their views on various dimensions of education. Furthermore, the analytical component enables a critical comparison of their perspectives in the context of educational transformation, ensuring a coherent and meaningful synthesis of ideas.

**Sources of Data:** The study is based entirely on secondary sources of data. These include books, peer-reviewed journal articles, and research papers related to the educational philosophies of Dr. A. P. J. Abdul Kalam and Mahatma Gandhi. Important works such as *"Ignited Minds, India 2020,"* and writings on *"Nai Talim"* have been used to understand their original ideas. In addition, contemporary educational documents and previous research studies have been consulted to examine their relevance in the present educational scenario.

**Tools and Techniques of Analysis:** The study employs content analysis and comparative analysis as the primary tools for data interpretation. Content analysis is used to identify and categorize key themes such as aims of education, value orientation, role

of technology, and social relevance within the writings of both thinkers. Subsequently, a comparative framework is applied to examine similarities and differences in their educational approaches. Logical interpretation and thematic organization are used to present the findings in a structured and coherent manner, ensuring clarity and academic rigor.

**Scope and Delimitation:** The scope of the study is limited to a comparative analysis of the educational philosophies of Dr. A. P. J. Abdul Kalam and Mahatma Gandhi within the framework of educational transformation. It focuses on selected dimensions such as aims of education, value-based education, role of science and technology, and relevance to contemporary education. The study is confined to secondary data and does not involve any empirical investigation or field survey. Moreover, it does not include the educational perspectives of other thinkers, thereby maintaining a focused and in-depth analysis of the selected personalities.

### **Educational Philosophy of Dr. A. P. J. Abdul Kalam**

The educational philosophy of Dr. A. P. J. Abdul Kalam is deeply rooted in the idea of transforming India into a knowledge-driven and developed nation. He viewed education as a dynamic force capable of shaping creative, ethical, and competent individuals who can contribute meaningfully to society. His approach integrates scientific advancement with moral values, emphasizing the development of both intellect and character. Kalam consistently highlighted the need to ignite young minds and nurture their potential through an education system that is innovative, inclusive, and future-oriented (Kalam, 2003).

**Aim of Education:** According to Dr. A. P. J. Abdul Kalam, the primary aim of education is to develop creative, confident, and responsible individuals. He believed that education should not be limited to the acquisition of information but should foster critical thinking, problem-solving ability, and a spirit of inquiry. Kalam emphasized the importance of empowering learners to dream big and achieve their goals through knowledge and perseverance. He also viewed education as a means to build character and instill a sense of social responsibility among students, enabling them to contribute to the nation's development (Kalam, 2003).

**Role of Science and Technology:** Science and technology occupy a central place in Kalam's educational philosophy. He strongly advocated for integrating scientific knowledge and technological skills into the curriculum to prepare learners for the challenges of the modern world. Dr. A. P. J. Abdul Kalam believed that technological advancement is essential for economic growth and global competitiveness. He encouraged the use of digital tools, innovation, and research-oriented learning to create a knowledge society. His vision aligns with the idea that education must evolve with technological progress to remain relevant and effective (Kalam, 1998).

**Value-Based Education:** For his strong emphasis on science and technology, Kalam equally stressed the importance of value-based education. He believed that knowledge without values can lead to imbalance in society. According to him, education should cultivate honesty, integrity, compassion, and a sense of duty among learners. Dr. A. P. J. Abdul Kalam emphasized that moral education should be integrated with academic learning to ensure the development of well-rounded individuals who can make ethical decisions in personal and professional life (Kalam, 2003).

**Role of Teacher and Learner:** Kalam placed great importance on the role of teachers as nation-builders and mentors. He believed that teachers have the responsibility to inspire, guide, and nurture the potential of students. A good teacher, according to him, not only imparts knowledge but also motivates learners to think independently and creatively. At the same time, he viewed learners as active participants in the educational process, encouraging them to ask questions, explore ideas, and engage in lifelong learning. Dr. A. P. J. Abdul Kalam emphasized a learner-centered approach that fosters curiosity and innovation.

**Education for Innovation and National Progress:** A key aspect of Kalam's educational philosophy is the promotion of innovation and national progress. He believed that education should equip students with the skills and mindset required to innovate and solve real-world problems. Dr. A. P. J. Abdul Kalam envisioned a system where education contributes directly to economic development, scientific advancement, and social transformation. By encouraging research, creativity, and entrepreneurship, he aimed to prepare a generation capable of leading the nation towards sustainable growth and global leadership (Kalam & Rajan, 1998).

### **Educational Philosophy of Mahatma Gandhi**

The educational philosophy of Mahatma Gandhi is grounded in the principles of holistic development, self-reliance, and moral integrity. He viewed education as a powerful means for individual and social transformation, aiming to create a just and harmonious society. Gandhi's ideas emerged as a response to the colonial education system, which he believed was disconnected from Indian culture and the realities of rural life. His philosophy integrates intellectual, physical, and spiritual development, emphasizing the formation of character alongside the acquisition of knowledge (Gandhi, 1937/1962).

**Concept of Nai Talim (Basic Education):** The concept of "Nai Talim", or Basic Education, is central to Gandhi's educational thought. Mahatma Gandhi proposed an education system that is free, compulsory, and rooted in productive work. Nai Talim emphasizes learning through activity and experience rather than rote memorization. It seeks to make education relevant to the socio-economic conditions of learners, particularly in rural areas, by integrating academic subjects with practical skills. This approach not only enhances understanding but also promotes dignity of labour and self-sufficiency (Gandhi, 1937/1962).

**Aim of Education:** According to Mahatma Gandhi, the primary aim of education is the all-round development of an individual, encompassing body, mind, and spirit. He believed that true education should draw out the best qualities within a person and

foster moral and ethical values. Gandhi emphasized character formation as the foundation of education, aiming to produce responsible and compassionate citizens who can contribute positively to society. Education, in his view, is not merely for livelihood but for leading a meaningful and ethical life.

**Learning through Work (Craft-Centered Education):** A distinctive feature of Gandhi's philosophy is the emphasis on learning through productive work, often referred to as craft-centered education. Mahatma Gandhi advocated the inclusion of handicrafts and vocational activities as the core of the curriculum. This approach allows students to learn academic concepts in a practical context while developing useful skills. It also fosters creativity, discipline, and respect for manual labour. By integrating work and education, Gandhi aimed to make learning more engaging, relevant, and economically productive (Gandhi, 1937/1962).

**Moral and Value Education:** Moral and value education occupies a central place in Gandhi's educational philosophy. Mahatma Gandhi believed that education should cultivate virtues such as truth, non-violence, honesty, and compassion. He emphasized that without moral development, education remains incomplete and may even contribute to social imbalance. Gandhi viewed values not as abstract ideals but as principles to be practiced in daily life. His approach to education thus seeks to nurture individuals who are ethically grounded and socially responsible.

**Education for Self-Reliance and Social Change:** Gandhi strongly advocated for education that promotes self-reliance and social transformation. Mahatma Gandhi believed that education should enable individuals to become economically independent and capable of contributing to their communities. He emphasized the importance of empowering the weaker sections of society through inclusive and need-based education. Furthermore, he saw education as a tool for addressing social inequalities and building a just social order. His vision continues to hold relevance in contemporary discussions on sustainable development and equitable education.

### **Comparative Analysis**

A comparative examination of the educational ideas of Dr. A. P. J. Abdul Kalam and Mahatma Gandhi reveals a meaningful interplay between tradition and modernity. While their approaches emerge from different historical and intellectual contexts, both thinkers share a deep commitment to using education as a transformative force for individual growth and societal well-being.

**Similarities in Educational Visions:** Both Dr. A. P. J. Abdul Kalam and Mahatma Gandhi emphasize holistic development as the central aim of education. They advocate the balanced growth of intellectual, moral, and social dimensions of the learner. Value-based education is a common thread in their philosophies, as both stress the importance of ethics, character formation, and social responsibility.

Additionally, both thinkers view education as a means of nation-building and social transformation. They highlight the role of education in empowering individuals, reducing inequalities, and fostering a sense of duty towards society. Another point of convergence lies in their learner-centered approach, where curiosity, creativity, and active participation are encouraged rather than passive learning.

**Differences in Educational Approaches:** Despite these similarities, their educational approaches differ significantly in orientation and emphasis. Dr. A. P. J. Abdul Kalam focuses on science, technology, and innovation as key drivers of educational progress. His vision aligns with the demands of a globalized and knowledge-based economy, where digital literacy, research, and technological competence are essential.

In contrast, Mahatma Gandhi emphasizes craft-centered, experiential, and value-oriented education rooted in local contexts. His concept of "*Nai Talim*" prioritizes self-reliance, manual work, and the integration of education with everyday life, particularly in rural settings. While Kalam's approach is forward-looking and technologically driven, Gandhi's philosophy is grounded in simplicity, sustainability, and moral living.

Thus, Kalam represents a modern scientific outlook, whereas Gandhi reflects a humanistic and ethical approach to education.

**Relevance in Contemporary Education:** In the present educational landscape, the ideas of both Dr. A. P. J. Abdul Kalam and Mahatma Gandhi remain highly relevant. Kalam's emphasis on innovation, digital learning, and skill development resonates with the needs of the 21st-century knowledge economy. His vision supports the integration of technology in education and the promotion of research and entrepreneurship.

At the same time, Gandhi's focus on value education, experiential learning, and social responsibility addresses the growing concerns of ethical decline, environmental challenges, and social inequality. His ideas encourage sustainable practices and community-oriented learning. Together, their perspectives offer a balanced framework that combines technological advancement with moral and humanistic values.

**Contribution to Educational Transformation:** The combined educational visions of Dr. A. P. J. Abdul Kalam and Mahatma Gandhi significantly contribute to the concept of educational transformation. Kalam's approach promotes innovation, scientific temper, and global competitiveness, which are essential for modern development. Gandhi's philosophy, on the other hand, ensures that education remains rooted in values, inclusivity, and social justice.

By integrating these perspectives, a more comprehensive and transformative educational model can be developed—one that not only equips learners with knowledge and skills but also nurtures ethical awareness and social commitment. Such a synthesis is

crucial for creating an education system that is both progressive and humane, capable of addressing the complex challenges of contemporary society.

### **Findings and Discussion**

The findings of the study are presented in relation to the stated objectives and research questions concerning the educational visions of Dr. A. P. J. Abdul Kalam and Mahatma Gandhi.

This study focuses on understanding the aims of education, the study finds that both thinkers advocate for the holistic development of the individual. Dr. A. P. J. Abdul Kalam emphasizes the development of creative, skilled, and responsible citizens capable of contributing to national progress, whereas Mahatma Gandhi stresses the formation of morally sound, self-reliant individuals. This finding addresses the research question related to the fundamental purpose of education and highlights a shared commitment to human development, albeit with different emphases.

Also this study examines the role of science and technology versus experiential learning, the study reveals a clear distinction in their approaches. Dr. A. P. J. Abdul Kalam strongly supports the integration of science, technology, and innovation in education to meet the demands of a knowledge-driven society. In contrast, Mahatma Gandhi advocates for learning through productive work (Nai Talim), focusing on practical skills and lived experiences. This directly answers the research question concerning their pedagogical orientations.

The findings indicate that both thinkers assign significant importance to value-based education, though their approaches differ in expression. Dr. A. P. J. Abdul Kalam integrates values such as integrity, responsibility, and national commitment within a modern educational framework, while Mahatma Gandhi places moral and ethical development at the very core of education. This finding responds to the research question related to the role of ethics and character formation.

The study also focuses on the roles of teacher and learner, and the study finds that both thinkers support a learner-centered approach. Dr. A. P. J. Abdul Kalam envisions the teacher as a facilitator who inspires innovation and critical thinking, whereas Mahatma Gandhi views the teacher as a moral guide and co-worker in the learning process. This finding addresses the research question on pedagogical relationships and classroom dynamics.

Finally, relevance in contemporary education and contribution to national development, the study finds that both philosophies remain highly significant today. Dr. A. P. J. Abdul Kalam provides a framework for technological advancement, innovation, and global competitiveness, while Mahatma Gandhi offers insights into sustainable development, social justice, and value-oriented living. This directly answers the research question regarding their applicability in present-day educational reforms.

In discussion, the study suggests that an integrated approach, combining the scientific and technological orientation of Dr. A. P. J. Abdul Kalam with the ethical and experiential framework of Mahatma Gandhi, can lead to a more balanced and transformative educational model. Such a synthesis can effectively address the dual needs of modern education—innovation and human values—thereby contributing to sustainable national development.

### **Educational Implications**

The comparative understanding of the educational ideas of Dr. A. P. J. Abdul Kalam and Mahatma Gandhi offers meaningful insights for reshaping contemporary education. Their combined perspectives highlight the need for an education system that balances technological advancement with human values, thereby ensuring both individual growth and social progress.

**Implications for Curriculum Development:** The study suggests that curriculum development should move beyond a purely content-oriented approach and adopt a more holistic and integrated framework. Inspired by the vision of Dr. A. P. J. Abdul Kalam, curricula should incorporate science, technology, innovation, and skill development to prepare learners for the demands of a knowledge-based society. At the same time, the ideas of Mahatma Gandhi emphasize the inclusion of value education, work-based learning, and community engagement.

An effective curriculum, therefore, should integrate academic knowledge with practical experiences, ethical values, and life skills. This may include project-based learning, vocational components, environmental awareness, and opportunities for social service. Such a balanced curriculum can foster creativity, self-reliance, and social responsibility among learners.

**Implications for Teaching-Learning Process:** The teaching-learning process should be learner-centered, participatory, and experiential. Drawing from the perspectives of Dr. A. P. J. Abdul Kalam, teaching should encourage inquiry, innovation, and the use of technology to enhance understanding and engagement. Digital tools, collaborative learning, and problem-solving activities can make learning more meaningful and relevant.

Simultaneously, the approach of Mahatma Gandhi highlights the importance of learning by doing, where students actively engage in productive work and real-life experiences. Teachers, therefore, should act not merely as transmitters of knowledge but as facilitators, mentors, and role models who guide students in both intellectual and moral development.

This blended approach can create a dynamic classroom environment that nurtures curiosity, critical thinking, ethical awareness, and practical competence.

**Implications for Policy and Practice:** At the policy level, the study indicates the need for an inclusive and forward-looking educational framework that aligns with national development goals while addressing social and ethical concerns. The vision of

Dr. A. P. J. Abdul Kalam supports policies that promote scientific research, technological innovation, and skill-based education. In contrast, Mahatma Gandhi provides a foundation for policies emphasizing equity, sustainability, and value-oriented education. Educational policies should, therefore, focus on bridging the gap between urban and rural education, promoting vocational training, and ensuring equal opportunities for all learners. In practice, this requires strengthening teacher education, encouraging community participation, and integrating local knowledge with global perspectives.

Finally, the synthesis of these two educational visions can guide policymakers and practitioners in developing an education system that is not only efficient and modern but also humane, inclusive, and socially responsive.

### **Conclusion**

The study concludes that the educational philosophies of Dr. A. P. J. Abdul Kalam and Mahatma Gandhi, though rooted in different contexts, share a common objective of using education as a powerful instrument for individual empowerment and social transformation. Kalam's emphasis on science, technology, innovation, and skill development reflects the needs of a modern, knowledge-driven society, while Gandhi's focus on value-based, experiential, and self-reliant education highlights the importance of moral development and social responsibility. Both perspectives underline the significance of holistic development, learner-centered approaches, and the role of education in nation-building.

At the same time, the study suggests that a meaningful educational transformation in the present era requires a balanced integration of these two approaches. The synthesis of Kalam's scientific and forward-looking vision with Gandhi's ethical and humanistic philosophy can help create an education system that is both progressive and value-oriented. Such an approach can address contemporary challenges by promoting innovation alongside integrity, thereby contributing to the development of responsible, skilled, and socially conscious individuals.

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