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A CRITICAL ANALYSIS OF A.P.J ABDUL KALAM'S CONTRIBUTION TOWARDS EDUCATION IN INDIA

Anisha Sinha
Student, University of Kalyani , Kalyani , Nadia ,Pin-741235

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ABSTRACT

A.P.J. Abdul Kalam, widely known as the "Missile Man of India," was not only a distinguished scientist but also a visionary leader, educator, and social reformer. He envisioned a progressive and self-reliant India driven by knowledge, innovation, and technological advancement. During his presidency, Dr. Kalam emphasized two crucial pillars for national development – education and information technology. He strongly advocated for a skill-based and technology-integrated education system that could meet the demands of a rapidly evolving world. Dr. Kalam's vision of transforming India into a global technological power through advancements in science and technical education remains highly relevant in today's educational landscape. He proposed the development of virtual universities and digital classrooms to make quality education accessible to all. According to him, the education system should be structured in a way that nurtures individuals into job creators rather than mere job seekers. He firmly believed that education is a powerful tool for the economic growth and technological progress of any nation. His contributions have significantly influenced modern educational concepts, including curriculum development, science education, women's education, value-based (moral) education, and the promotion of virtual laboratories and universities. This paper aims to analyze Dr. A. P. J. Abdul Kalam's contributions to the modern education system and explore the relevance of his educational ideas in the present context.

KEYWORDS: *A.P.J Abdul Kalam, Educational Thoughts, Digital Learning, Vision for Education, Quality Education.*

1. INTRODUCTION

Dr. A. P. J. Abdul Kalam was widely admired across the world for his remarkable personality and unmatched contributions. Many leaders and scholars described him as an exceptional individual, a humble and dignified President, an outstanding scientist, and a visionary statesman. Often called the "Missile Man of India" for his work with Indian Space Research Organization (ISRO), he also became one of the most beloved Presidents, especially among children .In one of his interviews, Dr. Kalam shared that after carefully studying the Constitution, he realized that the President has the freedom to present a vision for the nation in Parliament and legislative assemblies. He emphasized that such initiatives were welcomed by leaders across political parties, highlighting his inclusive and forward-thinking approach.

Honored with India's highest civilian award, the Bharat Ratna, Dr. Kalam remained a symbol of humility, simplicity, and wisdom. His life reflected the ideals of simple living and high thinking. Through his writings, especially his famous book India 2020, he inspired the youth with a clear vision of transforming India into a developed nation. Because of his dedication to inspiring young people and his close connection with the public, he rightfully earned the title of the "People's President."

2. OBJECTIVE OF THE STUDY

- To examine the educational ideas and philosophies of Dr. A.P.J Abdul Kalam.
- To understand Dr. Kalam's contributions to the development of education.
- To analyze the efforts and initiatives taken by Dr. Kalam to encourage and strengthen the modern education system in India.

3. METHODOLOGY

This research adopts a historical perspective in its approach. Both historical and philosophical research methods have been applied to conduct the study. Information has been gathered using a combination of primary and secondary sources, with greater emphasis placed on secondary data. Relevant materials were collected from a wide range of research journals, academic articles, books, dissertations, and credible online sources. For the purpose of analyzing and interpreting the collected information, an analytical approach has been followed. Therefore, the study is primarily based on qualitative data.

4. DELIMITATIONS OF THE STUDY

This study only focuses on the educational ideas of Dr. A.P.J Abdul Kalam. It also looks at his contributions to the modern education system in India in a simple and limited way. This study is based mostly on secondary sources like books, articles, journals. It does not include any field survey or primary data collection. This study covers only selected aspects of his thoughts, not all areas of his life and work.

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5. EDUCATIONAL THOUGHTS OF APJ ABDUL KALAM

A.P.J Abdul Kalam believed that the true purpose of education is to help a child understand both oneself and the surrounding world. According to him, every child is born with immense potential, just like a seed that holds the possibility of growing into a strong tree. He famously expressed that once the mind expands with knowledge, it never goes back to its earlier state.

He emphasized that a nation can achieve real independence and progress only when it has a strong and effective education system. However, he also pointed out that India still needs to improve significantly in this area.

Dr. Kalam viewed education as a "second birth." While parents give physical birth, education shapes the mind and character of an individual. It helps in developing creative thinking, a positive attitude, and a compassionate heart. In his opinion, education transforms a person into a responsible citizen and a valuable member of society.

He strongly believed that education should be practical and career-oriented. Students should gain skills and knowledge that prepare them for employment and real-life challenges after completing their studies. Education, according to him, plays a crucial role in shaping an individual's professional life.

Furthermore, Dr. Kalam stressed the importance of proper educational infrastructure. He suggested that every school should have essential facilities such as a well-equipped library, modern laboratories, access to information technology, clean sanitation, safe drinking water, and playgrounds for overall development.

In today's context, his educational ideas remain highly relevant, as they address both the current challenges and future possibilities of the education system in India.

6. AIMS OF EDUCATION

Kalam believed that education should go beyond textbooks and exams. Its main purpose is to shape responsible, confident, and capable individuals.

- Education should help students develop self-respect, dignity, and independence.
- It must focus on character building and nurturing strong moral values.
- Students should learn to respect others and develop a democratic and cooperative mindset.
- It should encourage a scientific outlook along with spiritual understanding.
- Learners must be trained to think critically, ask questions, and engage in research and inquiry.
- Modern education should use ICT (Information and Communication Technology) to enhance learning ability.
- Ultimately, education should prepare individuals to contribute positively to nation-building.

7. CURRICULUM

Kalam emphasized that curriculum should be dynamic and relevant to real-life needs.

- The curriculum must respond to changing social and professional demands.
- At the primary level, learning should encourage curiosity and hands-on activities.
- The focus should shift gradually from activity-based learning to theoretical understanding at higher levels.
- Integration of education, research, innovation, and entrepreneurship is essential.
- Subjects like management, finance, communication, and technology should be included.
- At the same time, moral education must be a compulsory part to build ethical citizens.

8. TEACHING METHODS AND MEDIUM OF INSTRUCTION

Kalam believed that the way teachers teach is just as important as what they teach.

- At the primary stage, learning should happen through activities, creativity, and exploration.
- At higher levels, methods like experiments, problem-solving, teamwork, and discussion should be used.
- He strongly supported learning by doing and observing real-life situations.
- Teachers should combine theory with practical examples from nature and daily life.
- Use of computers and technology in education is essential in today's world.

9. MEDIUM OF INSTRUCTION

- Mother tongue should be the main medium of instruction, especially in early education.
- At the same time, English should be learned as a global communication language.

10. THOUGHTS ABOUT TEACHER

According to Dr. Kalam, teachers are the foundation of a strong nation.

- Teachers should have passion and love for teaching.
- They must encourage students to ask questions and think independently.
- A good teacher always puts the student's growth first.
- Teachers should motivate students to discover their own potential.
- Equality is important—teachers must treat all students without discrimination.
- The role of a teacher is to transform average students into high achievers.
- Teachers should guide students to become lifelong learners.

11. THOUGHTS ABOUT STUDENTS

Kalam viewed students as the future leaders of the nation.

- Students should develop the habit of questioning and thinking deeply.
- Thinking leads to action, and action leads to progress and success.
- Knowledge is meaningful only when it is applied in real life.

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- Students must take responsibility for their own learning and future.
- He strongly emphasized the importance of dreams and goals.
- According to him, students should aim for excellence in studies, which is their first contribution to the nation.

12. ROLE OF SCHOOLS

A.P.J Abdul Kalam believed schools should become centers of knowledge and skill development, not just places for rote learning.

- Schools must provide a positive learning environment.
- Facilities like libraries, laboratories, clean classrooms, and playgrounds are essential.
- Schools should promote creativity, confidence, and innovation.
- Teachers should act as role models for students.
- A great school builds students who believe in "I can do it" and "We can do it."

13. EXAMINATION REFORMS

Kalam suggested major changes in the examination system.

- Evaluation should be transparent, fair, and reliable.
- Examiners should be properly trained.
- Results must be declared on time.
- Exams should not test only memory or bookish knowledge, but also skills, creativity, and personality development.

14. DISCIPLINE, VALUES, AND MORAL EDUCATION

Dr. Kalam strongly believed that values are the heart of education.

- Education without values is incomplete and meaningless.
- Moral education should start from early childhood.
- Discipline should come from self-control and inner strength.
- Schools and families should work together to build ethical values.
- Spiritual understanding should be integrated to help students realize their higher purpose in life.

15. RESEARCH IN EDUCATION

Kalam gave great importance to research. Research plays a crucial role in bringing innovation and continuous improvement in education as well as in society. For a developing country like India, it becomes essential to identify priority areas where educational research is most needed. Higher educational institutions, in this context, must take active responsibility in promoting and strengthening a strong research culture.

- A.P.J Abdul Kalam strongly emphasized the importance of research in education, considering it a key factor for ensuring quality teaching and meaningful learning.
- According to him, universities should nurture curiosity and creativity by identifying talented and promising minds at an early stage. These individuals should be provided with a supportive and intellectually stimulating scientific environment that encourages them to pursue fundamental research based on their interests.
- By fostering such a research-oriented atmosphere, educational institutions can contribute significantly to knowledge creation, innovation, and national development.
- Universities should support innovative and scientific research.
- Talented students should be given opportunities to explore their ideas and creativity.

16. VIRTUAL CLASSROOM, VIRTUAL LABORATORIES AND VIRTUAL UNIVERSITY

Kalam was far ahead of his time in promoting digital education.

- He advocated for ICT-enabled teaching to reach students in remote and rural areas.
- Virtual classrooms should connect expert teachers with students across locations, reducing educational inequality.
- He suggested using interactive tools, multimedia, and live sessions to make learning engaging.
- According to him, virtual classrooms can supplement traditional teaching, not completely replace it.
- He promoted the idea of virtual labs where students can perform experiments through simulations.
- These labs are especially useful where physical lab facilities are limited or unavailable.
- He emphasized that virtual labs can enhance conceptual understanding through repeated practice.
- Students can learn safely and economically, without expensive equipment.
- He supported initiatives like India's Virtual Labs project (developed by institutions like IITs)
- He proposed the establishment of Virtual Universities to provide anytime, anywhere learning.
- These universities should offer flexible, learner-centered education through online platforms.
- He emphasized collaboration between institutions globally, allowing knowledge sharing.
- Virtual universities can help in lifelong learning and skill development.
- He believed they would play a key role in creating a knowledge-based society in India.

17. CONCLUSION

In conclusion, the educational philosophy of A. P. J. Abdul Kalam is deeply rooted in the idea of building a strong and developed nation through quality education. He believed that education should not only provide knowledge but also develop creativity, scientific thinking, moral values, and self-confidence among students. According to him, every child has great potential, and it is the responsibility of the education system to nurture that potential in the right direction.

Dr. Kalam also emphasized the importance of research, innovation, and the use of technology in education. He strongly supported the development of virtual classrooms, modern laboratories, and research-oriented universities to make

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education more effective and accessible to all. His vision of education focuses on creating responsible citizens who are capable of contributing to national development as well as global progress.

Therefore, his educational thoughts are not only relevant for modern India but also highly useful for shaping the future of education. If his ideas are properly implemented, the education system can become more meaningful, student-centered, and capable of building a knowledgeable and value-based society.

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