



International Journal of Research in Academic World



Received: 21/February/2024

IJRAW: 2024; 3(3):73-77

Accepted: 24/March/2024

Educational Thoughts and Contribution of Dr. A.P.J. Abdul Kalam towards Modern System of Education in India

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Abstract

Dr. A.P.J. Abdul Kalam regarded as one of the legendary Missile Man, great educator, leader and a social reformer of India. He had a vision for India. During Kalam's presidency period, he focused about two key points: Education and Information Technology. He advocates skill based and technology enhanced education. Dr. Kalam's vision of making India a technological power through advancement in science and technical education are very relevant in the present education system. Dr. Kalam believes that there is need to create a virtual university and virtual classrooms in India. He believed that education system has to be designed in a way that produces large number of employment generators and just not employment seekers. He firmly believed that education can be used as a vital tool for the economic and technological upliftment of any nation. Dr. A.P.J. Abdul Kalam has contributed in shaping the concept of curriculum, science education, women education, moral education, virtual laboratories and virtual universities which have relevance in the present modern system of education. In this paper, the researcher intends to study and analysis the A.P.J. Abdul Kalam's contribution towards Modern Education System and also the researcher tried to explore the educational thoughts of Dr. A.P.J. Abdul Kalam in the present education system.

Keywords: Dr. A.P.J. Abdul Kalam, educational thoughts, science and technology

1. Introduction

Dr. Avul Pakir Jainulabdeen Abdul Kalam usually referred as Dr. Abdul Kalam, known as the missile man of India for his outstanding contributions to ISRO (Indian Scientific Research Organization), was also one of the favourite presidents of Indian kids. The great man was born on 15th Oct. 1931 in a Tamil Muslim family in the Rameshwaram, Tamil Nadu, India. He spent a lot of his presidential tenure (2002-2007) visiting educational institutions and interacting with the youth of India. His birth anniversary is observed as "World's student's Day". The humble president, adorned with Bharat Ratna. He was a great scientist and an inspiring leader and his contributions to the field of education, science and technology have gained him worldwide recognition. He gained popularity for motivating children for scientific pursuits, thus becoming a role model and he has also earning the title 'Peoples President'. His life epitomized simple living and grand thinking.

Dr. Kalam emphasized on education, he has contributed a lot to different aspects of education including the aims of education, curriculum, teaching methodology, role of teachers, parents, schools and so on. Dr. Abdul Kalam has put forth his views regarding various issues like women education, moral education, value based education. He has given various educational ideas to improve the standards of education in India through various speeches, lectures and

writings. The life of Kalam and his teaching emphasized on sincerity, dedication, hard work and in genuine challenges pursuit of success and advancement in life. He said "To succeed in your mission, you must have single-minded devotion to your goal." He also said about success, "If you want to shine like sun, first burn like sun." According to him, the purpose of education is to make good human beings with skill and expertise. He was a source of inspirations for thousands of people across the world because of his thoughts, philosophy and teachings. He said, "Don't take rest after your first victory because if you fail in the second, more lips are waiting to say that your first victory was just luck." His thoughts and considerations on education and empowering country are outstanding. He said "All of us do not have equal talent. But, all of us have equal opportunity to develop our talent." He believes that the teachers, particularly school teachers, have tremendous responsibility in shaping the life of an individual. Childhood is the foundation stone upon which stands the entire life structure. Dr. firmly believes that the education system should be able to retain the smiles of every child. He further states that the education system has a tremendous power to transform a child into a leader. Dr. Kalam believes that proper education would help to nurture a sense of dignity and self-respect among the students. He always motivates students by using some inspirational speech like; "Failure will never overtake me if my determination to

succeed is strong enough." He also said, "If four things are followed-having a great aim, acquiring knowledge, hard work and perseverance-then anything can be achieved." His ideas and considerations on science, technology, women's education and higher education were outstanding. Dr. Kalam emphasizes the use of science and technology in the day to day life so that, India could emerge as a progressive and technologically advanced nation. His educational and scientific thoughts are of great significance in the present educational system. He is a man who has the dream of making India a developed nation. One of the significant quotes of Dr. Kalam, about dream, "Dream, Dream, Dream. Dreams transform into thoughts and thoughts result in action." Dr. Kalam says that India can gain the status of a developed nation only with advancement in education, science and technology. The remarkable contribution of A. P. J. Abdul Kalam towards modern education System in India have been enlightened and focused in this research Paper.

2. Objectives of the Study

- To study the educational thoughts of Dr. A.P.J. Abdul Kalam.
- To know the contribution of Dr. Kalam in the field of Education.
- To discuss the activities of Dr. Kalam to promote the modern education system in India.

3. Methodology of the Study

The study is Historical in nature. Historical and philosophical methods of research have been used in this study. Both primary and secondary sources were employed to acquire data in this study. In this study mainly, secondary sources were used. Data have been collected from various research journals, articles, books, Research theses and websites. The analytical approach was employed in this study for data analysis and interpretation. So, qualitative data have been used in this study.

4. Delimitations of the Study

The study was delimited to the educational thoughts of Dr. A.P.J. Abdul Kalam and further it was delimited to his contribution towards Modern Education System in India.

5. Educational Thoughts of A.P.J. Abdul Kalam

Dr. A.P.J. Abdul Kalam says that:

The primary purpose of education in present time is to guide the child to discover his true self and his world. Just as each seed contains the future tree, each child is born with infinite potential. Dr. Kalam said, "Once your mind stretches to a new level it never goes back to its original dimension." A good education system is fundamental to a nation that wants to be independent in each sense. India still has a long way to go to reach this goal.

- The parents give to their children their physical birth. The second birth is the process of education.
- Education is all about forming beautiful minds that are creative.
- Education transforms a human being into a wholesome whole, a noble soul and an asset to the universe.

According to Dr. Kalam, the normal curriculum of the children should job oriented through which they get job after the completion of academic career. He believes that education is the most important area in the field of service life of the trainee as it provides the required knowledge and skill to do

any work. Library, laboratories with the most up-to-date information technology tools, equipment, safe drinking water, clean restrooms and a playground should all be included in all educational institutions. APJ has given such educational thoughts, which take into account the present educational problems and future perspectives of education in India so his thoughts about education are relevant to the present education system.

a) Aims of Education

According to Dr. Kalam, education system should retain the smiles of children. This can happen if the education system is made creative throughout and full employment is provided to all. He said, "You cannot change your FUTURE; you can change your HABITS and surely your HABITS will change your FUTURE."

Dr. Kalam's Aims of Education are as Follows

- To foster the sense of dignity, self-respect and self-reliance among students.
- To build character and to cultivate human values in students.
- To develop democratic attitude and love for fellow beings.
- To develop scientific attitude and creativity with spiritual foundation among students.
- To develop capacity for research and enquiry among students.
- To improve learning capacity through ICT.
- To enlighten and empower citizens to contribute towards healthy nation building.

b) Curriculum

Dr. Kalam suggested that the curriculum should be structured in such a manner that it should meet the changing societal and occupational needs, and inculcate high moral values among the students in addition to learning skills.

Some of the educational thoughts and ideas for curriculum designing stated by Dr. Kalam are:

- Educational institutions have to gear up to evolve a curriculum that is sensitive to social and technological needs of developing India.
- At primary stage education must nurture the child's curiosity about the environment and integrate the thinking process with the skills of hand, limb and body.
- Creativity in education system can be promoted by reducing the theoretical burden at primary level, and progressively increasing it at secondary and higher level.
- Proficiency in science must be enlarged with the reoriented framework of integrating education, research, innovation, and entrepreneurship.

He said, "Man needs his difficulties because they are necessary to enjoy success."

Present age is the age of globalization and India needs a huge number of vocationally efficient manpower. So, Dr. Kalam has rightly emphasized the subjects of management, finance, marketing, inter-personal relationship, negotiation, entrepreneurship, IT/ITES applications. With these subjects, Dr. Kalam wants that moral science should also be a compulsory part of curriculum to give a strong value basis to the next generation.

c) Teaching Methods and Medium of Instruction

Dr. Kalam believed that teaching method plays a significant role in the process of whole education system. He stated that

at primary level emphasis should be on exploration and creativity through activities and at secondary level emphasis should be on experiments, problem solving and team work. Dr. Kalam favoured learning by doing and self-observation and believed that self-observation outside the classrooms is equally important for the overall development of the students. He suggests teachers should give theoretical lesson coupled with a live practical example available in nature. According to Kalam, question answer method, discussion method, debating, lecture cum demonstration, laboratory methods of teaching should be put to use. He suggested that a practical approach should be used by the teacher's by giving the live illustrations to make the lectures more interesting. He also emphasized that children should learn through computers and teachers should help the students in their task. Present age is the age of computers and it is really necessary to equip our students with the basic knowledge of computers to keep pace with the outer world. Thus, it is very relevant to the present system of education.

Medium of Instruction: Dr. Kalam emphasized that language should be a barrier for the growth and development of the learners. He advised that mother tongue should be used as medium of instruction at school and college level. But at the same time he promoted English as an essential global link language.

d) Thoughts about Teachers

Dr. Kalam considers that teachers are the backbone of the country. He believed that teachers have tremendous responsibility in shaping the child. He visualised that role of teachers like a ladder which is used by everyone to climb up in life. He believed that aim of the teacher should be to build character and inculcate values that enhance the learning capacity of children, build confidence to be innovating and creative which in turn will make them ready to face the future. Dr. Kalam advised the teachers to teach the students the process of learning and enable them to become life-long autonomous learners. According to Kalam the delivery of quality education is possible only through quality teachers. According to Dr. Kalam, a teacher must have following qualities:

- Teacher should love teaching. A teacher must have passion about give his/her knowledge.
- Teacher should encourage question from students. Teacher should let them think beyond their thinking.
- Teacher puts the student ahead.
- Teacher create pressure on the student to explore own capabilities.
- Teacher should treat all the students equally and should not support any differentiation on account of religion, community or language.
- The teacher should be such who can elevate the average student to high performance.

A teacher's personality reflects through the student's activities. In modern times, when life is becoming more and more complex and frustration among students, the teachers have to play their role effectively and guide the students in a positive direction. Dr. Kalam said, "Determination is the power that sees us through all our frustration and obstacles. It helps in building our willpower which is very basis of success."

e) Thoughts about Students

Dr. Kalam believes that students should ask questions to teachers because it is one of the very important characteristics of a student. He stresses on thinking by students. APJ says that thinking is progress. Non thinking is stagnation of the individual, organization and the country. Thinking leads to action. Knowledge without action is useless and irrelevant. He further writes that thinking should become student's capital asset, no matter whatever ups and downs student's come across in their life. He said, "Be active! Take on responsibility! Work for the things you believe in, if you do not, you are surrendering your fate to others." Dr. Abdul Kalam believes that everyone should have Dreams. He writes, "Dream is not that which you see while sleeping it is something that does not let you sleep." Dr. Kalam said about dream, "Dream, Dream, and Dream. Dreams transform into thoughts and thoughts result in action." Kalam sir believes that primary focus of the students should be to excel in their studies. This is their first contribution to the development of the nation. The education system should instil in the minds of students capacities of inquiry, creativity, technology, entrepreneurial and moral leadership.

f) Role of Schools

According to Dr. Kalam, schools must be more from being educational centres to becoming knowledge and skill centres. Every school should have basic facilities such as a good building equipped with ventilation and lighting. The rooms should be airy and have spacious classrooms. The school should also have a library, laboratories including the latest Information Technology tools and infrastructure, safe drinking water, clean toilets and a playground. Some characteristics of a good educational institution as per Dr. Abdul Kalam are:

- A school is great when it creates true learning environment by providing all facilities to the students.
- A school is great if creativity bubbles there.
- A school is great when it creates and generates students with confidence that "I can do it" and that in turn generates the spirit that "we can do it".
- A school is great when it has teachers who are chartered and become role models for the students.
- A school is great if the alumni of that school are proud to be alumni of that school.

g) Thoughts about Examination Reforms

Dr. Kalam suggests,

- The system of examination, evaluation and reporting should be more transparent and reliable.
- Examining bodies must carry out special training for certifying the examiners in the evaluation process.
- The examining bodies should have a reliable evaluation system and timely declaration of the results.

He said, the present examination system is all about doing away with evaluation on the basis of bookish knowledge and memory. But the examination system should cover all aspects of personality development. He Said, "The best brains of the nation may be found on the last benches of the classroom." He also suggested a way to get out of traditional method of evaluation and his thoughts about the reforms in existing examination system.

h) Discipline, Value & Moral Education

Dr. Kalam said, "It is very easy to defeat someone, but it is very hard to win someone." He believed that education without values is meaningless. Only value based education can produce civilised countrymen. As per him, value education is the basic need of a democratic nation. Dr. Kalam gave importance to individuality but he believed that nation is bigger than individual. He further believed that a nation can prosper only when the citizens are well mannered and chartered. He said, "I am not handsome but I can give my hand to someone who needs help, because beauty is required in the heart, not in the face." True discipline comes from self-control. Dr. Kalam himself lived a great disciplined life so he always gave due importance to a well-disciplined life.

He has given much importance to moral education in his educational thoughts. He suggests that:

- Moral education must be provided to the children right from the school stage so that they have a strong moral value base for the whole life.
- The school hours for children are the best time for learning and they need the best of environment and mission-oriented learning with value system. During this stage, they need value-based education in school and at home to become good citizens.
- Parents and teachers should work for the mission of value inculcation among children in an integrated manner.
- Spirituality must be integrated with education and self-realization should be the focus. Everyone should be aware of his higher self. Dr. Kalam said, "You see, God helps only people who work hard, that principle is very clear."

i) Research in Education

Research is a very significant means of renovation and renewal of education as well as the society. As India is in its developing phase so it's necessary to identify the areas where research is direly needed and the role of higher education institutions should be strengthening the research in education. Dr. Kalam gives much emphasis to research in education as it leads to quality teaching. He suggested that, in order to promote scientific research, universities should identify the brilliant minds and provide them with right type of scientific environment to pursue fundamental research of their choice.

j) Virtual Classrooms, Virtual Laboratories and Virtual Universities

Constraints of time and space together with the rapid obsolescence of knowledge in some areas of science and technology have created a huge demand for different courses from different institutions in the distance mode. There is a need for a working digital library system that alone can, provide the kind of access required for a knowledge Society. Technology Enhanced Learning will become an economically viable solution. Virtual classrooms of the nature will have students from many locations taught by a main of geographically distributed instructors through the tele-education delivery system. Tele-education software can be an important tool for the digital library. Dr. Abdul Kalam (2005) writes that libraries need to be digitized and the books should be available seamlessly across the universities and distance learning programmes for universal access. He further writes "When a student desires to read a certain book, he or she could be given online access.

Dr. Kalam (2005), writes that there is need to create a virtual university in India. This can be done through networking of all the universities of India. This would make it possible for

all the networked universities to pool their resources and provide students with a better education than they could manage on their own. Dr. Kalam is in favour of Virtual Laboratories and Virtual Universities. He says that:

- The internet will transform the messaging and collaboration to Virtual Experimentation leading to the establishment of Virtual Universities and Laboratories and will transform the education in a creative learning experience at anytime and anywhere mode with collaborative interaction as a way of learning over the borderless world.
- Virtual university will act as a central hub of all universities which are networked.
- Identify experts of national/international eminence in specialized areas.
- Coordinate, organize, schedule and broadcast the lecture of specialists at a time convenient to all participants.
- Record the live transmission of the lecture with interaction details in a databank for easy access by participants for review learning.
- Digitize all the university libraries and make it available for seamless access by all the universities.
- Provide for lectures, laboratory, learning, and the library, all through the Internet.
- The interactions between the universities and laboratories should also be used as a platform to excite the students to take to learning in the new paradigm.

Dr. Kalam's ideas regarding the establishment of virtual universities are being considered very useful in the present times and some universities of the country have taken initiative in the direction of establishment of virtual universities and are being connected with other universities of country and also with the other countries through Internet.

6. Conclusion

Dr. A.P.J. Abdul Kalam played a significant role in the development of India's missile technology and he earned the nick name, "Missile man" of India for his outstanding contributions towards science and technology. His insights and conception on education and its applicability and implementation have great consequences. His main focus was about two main factors; Education and Information Technology (IT). For any nation to bloom, these two fields play a vital role. Right now, India is really exploring these two sectors. India' Education as well as Information technology is growing at a tremendous rate. His humanity, thinking, contribution reached in every corner of society. He was driving force behind the development of India's first satellite launch vehicle. For his contributions to nuclear science, Dr. Kalam was awarded the Bharat Ratna in 1997. He Said, "I reminded myself that the best way to win was to not need to win. The best performances are accomplished when you are relaxed and free of doubt." He was the only president of India who has a lot of love for children and feels that the future of India lies in them. Dr. Kalam emphasized a lot on youth to carry forward the technological advancements. So Kalam's dream is going to be fulfilled very soon and the youth are playing a vital role in developing India. A.P.J Abdul Kalam is a true inspiration to every student all over the world.

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