

# RELEVANCE OF THE EDUCATIONAL PHILOSOPHY OF DR. A.P.J. ABDUL KALAM FOR 21<sup>ST</sup> CENTURY MODERN SYSTEM OF EDUCATION WITH REFERENCE TO NATIONAL POLICY ON EDUCATION

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**Abstract:** The investigators have tried to explore the educational philosophy of Dr. A.P.J. Abdul Kalam with special reference to concept of education, aims of education, curriculum, moral of education, research in education, methods of teaching, examination reforms, women education, virtual laboratories and virtual universities, reducing dropouts, role of the teacher and role of parents and to evaluate the relevance of the educational philosophy of Dr. A.P.J. Abdul Kalam in the present education system with reference to National Policy on Education 1986. The findings of the study are: The primary purpose of education in 21<sup>st</sup> century 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. 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. Dr. Kalam has given an educational philosophy, which takes into account the present educational problems and future perspectives of education in India. Dr. A.P.J. Abdul Kalam also wants such education that aims at building in the students the capacities to deal with the real world, to grow in their professional career and participate in the national development. He further adds that the aim of the education system should be to create employment generators rather than employment seekers. He says that education should develop the capacities for inquiry, creativity, technology, entrepreneurial and moral leadership. Education should develop children into good human beings with knowledge and value system. It should transform them into self-directed, self-controlled, lifelong learners. It should aim at developing a strong moral value system. He says that education should aim at harmonious development of the individual. Dr. A.P.J. Abdul Kalam insists that if the child misses the value-based education, no government or society can establish a transparent society or a society with integrity. He also adds that spirituality must be integrated with education and self-realization should be the focus. Everyone should be aware of his higher self. Since Universities are the reservoir of knowledge and also the prime knowledge generation centers of the nation so in order to promote scientific research, the brilliant minds in the university should be identified and should be provided with the right type of scientific environment to pursue fundamental research of their choice. Equal emphasis is needed in research in the areas of arts and literature, humanities, political science, law, economics, commerce, and management along with scientific researches to promote balanced growth of the societal system preserving the civilization heritage. Dr. A.P.J. Abdul Kalam also advocates that the education system has to be creative, interactive, self-learning and informal with focus on values, merit and quality instead of being textbook based teaching. He says that the real teaching is one where the teachers give theoretical lesson coupled with a live practical example available in nature. Women should be empowered through quality education and raise their capacity to contribute to the society as enlightened women are very important for nation building since their thoughts, the way of working and value system will lead to faster development of a good family, good society and a good nation. Thus, Dr. Kalam has contributed his educational thoughts to the present educational system in 21<sup>st</sup> century.

**Index Terms:** Concept of Education, Women Education, Virtual Universities, Virtual Laboratories, Research in Education, Role of Parents, National Policy on Education

## I. INTRODUCTION

A.P.J. Abdul Kalam was a scientist and the 11th President of India from 2002 to 2007. His prestigious efforts towards the development of country and people are unforgettable. A.P.J. Abdul Kalam's Contribution towards Science, Education & Society is immeasurable and occupied with incredible efforts during his life journey (Chauhan, 2017). An aeronautical engineer by training, Dr. Kalam played a critical part in developing India's nuclear weapons program as well as establishing and leading India's space program. He was the Chief Executive of the Indian Integrated Guided Missile Development Programme which led the way for India's missile development and was Chief Scientific Advisor to the Indian Defense Minister at the time of India's nuclear tests. He was also a leader in the development of India's Satellite Launch Vehicle development (Boston University, 2007). The world population today is 6.6 billion which is projected to be over 9 billion by 2050. The critical issues arising from this population growth are shortage of energy, shortage of water and increasing damage to the natural environment and ecology (Kalam, 2007). Dr. Kalam, a former president of India, is a scientist, an engineer as well as a teacher. As a teacher he has given various educational ideas to improve the standard of education in India and abroad through their motivational speeches, lectures

and writings. He, who stands for integrating ancient and modern educational ideals for the development of a balanced Indian society, is a great educational thinker and visionary. He also stressed on inclusive education as he is a kindhearted person and has concern for every countryman whether he/she is able or disable. He wants to provide equal opportunity to everyone to explore and live with full of dignity. Being a top scientist of international reputation, his direct contribution to the advancement of science and technology is unique and commendable. He wants to bring the revolution in the field of education and technology by understanding the local needs, availability of local resources of both the types: human resources and non- human resources. And to provide the practical solutions to the problems of a democratic country like India, Kalam went with a democratic approach of philosophy (Rupainwar,2016).His inspiring and motivating words always work as a catalyst for both teachers and the students. He is always known as a great scientist instead a great educationist, and his thoughts and contributions in the field of education are still unexplored (Rupainwar,2016).The National Policy on Education (NPE) was adopted by Parliament in May 1986. Based on an in-depth review of the whole gamut of educational situation and formulated on the basis of a national consensus, it enunciated a comprehensive framework to guide the development of education in its entirety. That framework continues to be of relevance. The present study analyzes Kalam's education philosophy with reference to national Policy on Education, 1986. Thus, the present study assumes high significance.

## II. SIGNIFICANCE OF THE STUDY

1. This study may identify the components of educational thoughts of Dr. A.P.J. Abdul Kalam with special reference to concept of education, aims of education, curriculum, moral of education, research in education, methods of teaching, examination reforms. women education, virtual laboratories and virtual universities, reducing dropouts, role of the teacher, role of parents.
2. It might help to facilitate the present education system in India and abroad.
3. The practitioners of education will get a clue for overall development of students in applying the principles of educational thought by Dr. A.P.J. Abdul Kalam.
4. The teachers will get a clear-cut knowledge about the role of education that can be useful for human development.
5. The parents will get a clear-cut knowledge about the role of education that can be useful for the development of their children.
6. This study may provide a clue for human resource development by considering the principles of educational thought by Dr. A.P.J. Abdul Kalam.
7. It might help in establishing virtual laboratories.
8. It might help in establishing virtual universities.
9. It might help in understanding the role of women education in the country.
10. It might help in understanding the value of moral education.
11. It may provide a clear-cut knowledge about the significance of research in education.
12. The outcome of the present study will be useful to the educationist, principal, teachers, parents and the progress of the education and specially the researchers who carry out the qualitative research.

## III. OBJECTIVES OF THE STUDY

1. To explore the educational philosophy of Dr. A.P.J. Abdul Kalam with special reference to concept of education, aims of education, curriculum, moral of education, research in education, methods of teaching, examination reforms. women education, virtual laboratories and virtual universities, reducing dropouts, role of the teacher and role of parents.
2. To evaluate the relevance of the educational philosophy of Dr. A.P.J. Abdul Kalam in the present education system with reference to National Policy on Education 1986.

## IV. RESEARCH QUESTIONS

1. What are the educational thoughts of Dr. A.P.J. Abdul Kalam?
2. What is the relevance of his educational philosophy in 21<sup>st</sup> century with reference to National Policy on Education?

## V. RESEARCH METHODOLOGY

In view of the nature of the study, the investigators used the exploratory method in order to accomplish the present research work. The nature of the present study is qualitative as it studies the relevance of educational philosophy of Dr. A.P.J. Abdul Kalam.

### 5.1 Sources of Data

The present study is based on educational philosophy of Dr. A.P.J. Abdul Kalam. So, the investigators decided to collect the information from different sources. The researchers made extensive use of relevant literature to get the required information. Both primary and secondary sources of data were used. Data were collected from journals, magazines, newspapers, books, online portals, newspaper articles (reporting events), photographs, autobiographies, personal narratives, manuscripts and other sources of data.

### 5.2 Tools and Techniques Used for Collection of Data

As the present study was based on the educational philosophy of Dr. A.P.J. Abdul Kalam, thus content analysis was used as a technique to analyze his educational philosophy and its relevance to the 21<sup>st</sup> century. According to the content analysis method, the researchers utilized the following steps in the analysis of the data. a) Thought Analysis: The researchers read all the materials and recorded the thoughts of A.P.J. Abdul Kalam in the form of idea units. b) Concept Analysis: After categorizing the idea units into idea groups, the researchers tried to analyze the general concept of A.P.J. Abdul Kalam's thinking. c) Linguistic Analysis: While analyzing the thoughts and concepts, the research also analyzed the words and language used by A.P.J. Abdul Kalam because each person expresses the thoughts and concepts through words (Chauhan,2017).

### 5.3 Delimitations of the Study

5.3.1. The study has been delimited to the educational philosophy of Dr. A.P.J. Abdul Kalam.

5.3.2. The study has been delimited to analyze the relevance of educational philosophy of Dr. A.P.J. Abdul Kalam in the present education system.

5.3.3. The study has been delimited to analyze the relevance of the educational philosophy of Dr. A.P.J. Abdul Kalam in the present education system with reference to National Policy on Education 1986.

### 5.4 Variables of the Study

The study sought mainly to study the educational philosophy (concept of education, aims of education, curriculum, moral of education, research in education, methods of teaching, examination reforms, women education, virtual laboratories and virtual universities, reducing dropouts, role of the teacher, role of parents) of Dr. A.P.J. Abdul Kalam in the 21<sup>st</sup> century.

## VI. RESULTS AND DISCUSSION

The educational philosophy of Dr. A.P.J. Abdul Kalam is of great relevance in the 21<sup>st</sup> century. The results of the present study have been presented as follows:

### 6.1 Concept of Education

With regard to the evaluation of relevance of the educational ideas of Dr. A.P.J. Abdul Kalam to the present system of education, the first aspect would be the concept of education. For all times the basic concept of education is the betterment of an individual in all aspects. Same is the situation when Dr. Kalam talks about education. Dr. A.P.J. Abdul Kalam believes that education is a very important factor to reform and re-mold the society. All revolutions begin in the minds of students. Education teaches us the right use of our body and brain. Education is the most important element for growth and prosperity of a nation. It is a journey of knowledge and enlightenment that transforms a human being into a wholesome whole, a noble soul and an asset to the universe. Education is all about forming beautiful minds that are creative. In turn, creative minds will make the world beautiful.

**Figure 1: National Policy on Education (1986) and Its Recommendations**

National Policy on Education (1986) says, an ideal system of education should enable individuals to know and develop to the fullest, their physical and intellectual potentialities and promote their awareness of social and human values, so that they can develop a strong character and live better lives and function as responsible members of the society. It is by transforming human beings that social transformation can be brought about. The National Policy on Education aims at the education of the "whole man" the "total man" with commitment to higher values. Dr. Kalam also stresses that education should be such that the parents should feel satisfied after admitting their child in school and should feel confident that their child will get a good and value-based education. It is quite evident that the ideas of Dr. A.P.J. Abdul Kalam about the concept of education are very much in line with the NPE and its recommendations.

**The primary purpose of education** in 21<sup>st</sup> century 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. 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. Dr. Kalam has given an educational philosophy, which takes into account the present educational problems and future perspectives of education in India so his thoughts about education are relevant in present education system.

### 6.2 Aims of Education

The aims of education are the directions in which educators seek to guide the development of those, who are under their care. Aims are also considered as goals or destinations to be achieved, through the process of education. India's political and social life is passing through a phase which poses the danger of erosion to long accepted values. The goals of socialism, secularism, democracy and professional ethics are coming under increasing strain. The aim of education in India should be the preservation of these values.

**Figure 2: National Policy on Education (1986) and Its Recommendations**

The National Policy on Education (1986) speaks of education for all. This is fundamental to our all-round development. Material and spiritual education according to this policy has an acculturating role. It refines sensitiveness and perceptions that contribute to national cohesion, a scientific temper and independence of mind and spirit- thus furthering the goals of socialism, secularism, and democracy enshrined in our constitution. The policy further says that education develops manpower for different levels of economy. It is also the substrate on which research and development flourish, being the ultimate guarantee of national self-reliance. In sum, education is a unique investment in the present and the future.

Dr. A.P.J. Abdul Kalam also wants such education that aims at building in the students the capacities to deal with the real world, to grow in their professional career and participate in the national development. He further adds that the aim of the education system should be to create employment generators rather than employment seekers. He says that education should develop the capacities for inquiry, creativity, technology, entrepreneurial and moral leadership. Education should develop children into good human beings with knowledge and value system. It should transform them into self-directed, self-controlled, lifelong learners. It should aim at developing a strong moral value system. He says that education should aim at harmonious development of the individual. So, it is clear that his ideas are much in line with The National Policy on Education (1986). Present Indian society is suffering from degradation of moral values among the youth and it's really necessary to provide value-based education to the younger generation. The philosophy of Dr. Kalam is really worthy for making Indian young generation responsible citizens with a strong value system. Thus, it is fully relevant in present education system.

### 6.3 Curriculum

Education is a lifelong process, starting from birth and continuing till death. All the experiences that an individual learns throughout his life make him capable of living his life in a better way. The experiences that he receives in school are called the curriculum of the school. As the child is influenced the most by the school so the curriculum should be such that helps in the all-round development of his personality and the betterment of the society. But these days education system does not keep in mind the attitudes, aptitudes and interests of the children. As a result, after the completion of education, most of the educated people find themselves helpless in as much as that the education they have received does neither provides them a living nor makes them self-dependent.

**Figure 3: National Policy on Education (1986) and Its Recommendations**

National Policy on Education rightly asserts that education should be linked with life, needs and aspirations of the people.

Dr. A.P.J. Abdul Kalam wants a flexible curriculum that gives freedom to the students to take up subjects of their interest be it poetry, music, art or philosophy, commerce, literature, finance and all the other disciplines of engineering. He advocates such education that prepares students to deal with the real life and real world. Due to this reason he advocates that training in the subjects of science, technology, engineering and mathematics is of utmost importance for technology dependent society. Proficiency in science must be enlarged with the reoriented framework of integrating education, research, innovation, entrepreneurship, and venture capital leading to delivery competitive products in the global market. He further adds that young in the organization irrespective of their specialization should be trained to systems approach and projects to prepare them for new products, innovation and undertaking higher organizational responsibilities. He gives much importance to science education and wants that the children should be encouraged to take up the subject of science as their career.

**Figure 4: National Policy on Education (1986) and Its Recommendations**

National Policy on Education also stresses that science education should be strengthened so as to develop in the child well defined abilities and values such as the spirit of inquiry, creativity, objectivity, courage to question and an aesthetic sensibility. The policy recommends that programmes connected to science should be so organized that they enable the learner to acquire problem solving and decision-making skills and also to discover the relationship of science with health, agriculture industry and other aspects of daily life. Policy further insists that every effort will be made to extend science education to the vast numbers who have remained outside the pale of formal education.

Dr. A.P.J. Abdul Kalam suggests that the students should be equipped with knowledge on subjects like leadership, management, finance, marketing, inter-personal relationship, negotiation, entrepreneurship, IT/ITES applications, knowledge process outsourcing domain expertise and also adaptation of ethical values in all professional transactions. He wants that technical and vocational education should be provided to the students. The NPE also considers technical and management education as essential for national growth and says that reorganization of technical and management education should take into account the anticipated scenario by the turn of the century, with special reference to the likely changes in the economy, social environment, production and management processes, the rapid expansion of knowledge and the great advances in science and technology. Thus, the views of Dr. Kalam coincide with this aspect of National Policy on Education. 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, he wants that moral science should also be a compulsory part of curriculum to give a strong value basis to the next generation so it is clear that his views regarding curriculum are very relevant in present system of education.

### 6.4 Moral Education

Morality signifies a code of ethical principles, which are essential for leading a noble life. The world now has reached a stage of development, which can make it comfortable only if moral values are adopted. It is one of the functions of education to inculcate moral values amongst the students. The troubles of the whole world including India are due to the fact that education has become a mere intellectual exercise and not the acquisition of moral and spiritual values. At present when moral and social values are disintegrating, when religion is losing its hold, when power and knowledge are being misused for vested interests, it is essential to impart moral education among students, so as to make them better human beings. Dr. A.P.J. Abdul Kalam justifies that India has a mission of transforming itself into a developed nation with value system and this dream can be realized only if its students become enlightened citizens. It is important to instill values in children at the primary and secondary school level. He says parents and teachers; schools and homes must have an integrated mission: to inculcate moral leadership amongst children. They need value-based education in school and at home to become good citizens. The National Policy on Education says, "The growing concern over the erosion of essential values and an increasing cynicism in society has brought to focus the need for readjustment in the curriculum in order to make education a forceful tool for cultivation of social and moral values. The policy further says, "In our culturally plural society education should foster universal and eternal values, oriented towards the unity and integration of our people. Such value education should help to eliminate obscurantism, religious fanaticism, violence, superstition and fatalism. Apart from this role, value education has a profound positive content, based on our heritage, national goals and universal perceptions." Dr. A.P.J. Abdul Kalam insists that if the child misses the value-based education, no government or society can establish a transparent society or a society with integrity. He also adds that spirituality must be integrated with education and self-realization should be the focus. Everyone should be aware of his higher self.

**Figure 5: National Policy on Education (1986) and Its Recommendations**

The National Policy on Education emphasizes the need for the promotion of values in the aims of education as world is becoming materialistic and the younger generation is unaware of the very basic values of life. Whatever is being suggested for the modern education resembles to the views of Dr. A.P.J. Abdul Kalam.

At present, the education system should emphasize the need for the promotion of values in the aims of education as the younger generation is becoming unaware of the very basic values of life. Thus, Dr. Kalam has given a philosophy that is very relevant to present education system.

### 6.5 Research in Education

Dr. A.P.J. Abdul Kalam gives much importance to research in education, as he believes that good teaching emanates from research. He says that the teachers' love for research and their experience in research are vital for the growth of any institution. Experience of research leads to quality teaching and quality teaching imparted to the young in turn enriches research. Since Universities are the reservoir of knowledge and also the prime knowledge generation centers of the nation so in order to promote scientific research, the brilliant minds in the university should be identified and should be provided with the right type of scientific environment to pursue fundamental research of their choice. Equal emphasis is needed in research in the areas of arts and literature, humanities, political science, law, economics, commerce, and management along with scientific researches to promote balanced growth of the societal system preserving the civilization heritage.

**Figure 6: National Policy on Education (1986) and Its Recommendations**

The National Policy on Education says, research as a means of renovation and renewal of education processes will be undertaken by all higher technical institutions. It will primarily aim at producing quality manpower capable of taking up R & D function s. Research for development will focus on improving present technologies, developing new indigenous ones and enhancing production and productivity. A suitable system for watching and forecasting technology will be set up.

Thus, it is evident that the ideas of Dr. Kalam about the importance of research in education are very much in line with the recommendations of the National Policy on Education (1986). 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 is necessary to identify the areas where research is direly needed and the role of higher education institutions should be strengthening the research in education. Thus, Dr. Kalam has rightly emphasized the importance of research in education in present education system.

### 6.6 Methods of Teaching

Education as a process actualizes itself in and through various aids and devices, which are mostly psychological in nature. These aids and devices used in teaching and learning process are known as methods of teaching.

**Figure 7: National Policy on Education (1986) and Its Recommendations**

The National Policy on Education envisages a place of primary importance to the learner. Self-learning and learning by doing have been recommended. Interactive teaching and relating the process of teaching with environment have been emphasized to promote a spirit of discovery and inventiveness.

Dr. A.P.J. Abdul Kalam also advocates that the education system has to be creative, interactive, self-learning and informal with focus on values, merit and quality instead of being textbook based teaching. He says that the real teaching is one where the teachers give theoretical lesson coupled with a live practical example available in nature. Dr. A.P.J. Abdul Kalam says that the best learning takes place when the teacher infuses a creative learning habit in the students and makes it an enjoyable part of life long quest for knowledge. He says that children should learn through computers. In schools even the very small children should be taught how to use the computer so that creative learning environment can be created. In this task teachers should help the students. This holistic phenomenon of learning once ingrained in the primary stage, will lead to voluntary learning by the students. The National Policy on Education of 1986 says that a minimal exposure to computers and training in their use will form part of professional education, as computers have become important and ubiquitous tools for development. Programmes of computer literacy will be organized on a wide scale from the school stage. Thus, it is clear that Dr. Kalam's idea of self-learning and learning through computers are very relevant to the present system of education.

### 6.7 Examination Reforms

Examination and evaluation are very important in the process of education as they help the teacher to find out what students are learning, how they are progressing and how teachers can make improvements for their development. Dr. A.P.J. Abdul Kalam finds a secure examination system as need of the hour. He wants a more transparent and reliable system of examination, evaluation and reporting. He says that the examining bodies should have a reliable evaluation system and timely declaration of the results. The examining bodies may consider introduction of open book system of examination. He is hopeful that this will promote creativity among the teachers in setting questions and the evaluation of the creative ability of the students. Examining bodies for certifying the examiners in the evaluation process must carry out special training. In short, the examining bodies must evolve very good procedures. Assessment of performance is an integral part of any process of learning and teaching. As part of sound educational strategy, examination should be employed to bring about qualitative improvement in education.

**Figure 8: National Policy on Education (1986) and Its Recommendations**

NPE (1986) also wants a valid and reliable method of assessment to measure the development of the students and which works as a powerful tool for improving teaching and learning. It recommends re-casting the examination system where the element of subjectivity and chance is eliminated. The policy recommends continuous and comprehensive evaluation that incorporates scholastic and non-scholastic aspects of education, spread over the total span of instructional times. The policy further suggests the introduction of semester system from the secondary stage. It also recommends the use of grades in place of marks. Thus, it can be said that the ideas of Dr. A.P.J. Abdul Kalam are very much in line with the National Policy on Education (1986).

The purpose of education is to detect talent proactively. For this, it is essential that education has to be based on application and intelligence (with open book exams wherever necessary) instead of trying to test memory of knowledge. The present examination system is all about doing away with evaluation on the basis of bookish knowledge and memory. But it should cover all aspects of personality development and Dr. Kalam has suggested a way to get out of traditional method of evaluation and his thoughts about the reforms in existing examination system are very relevant in present education system.

### 6.8 Women Education

The role of women outside the home has become an important factor in the social and economic life of the country and in the years to come this will become even more significant. For this reason, greater attention will have to be paid to the problems of training and development of women. Dr. A.P.J. Abdul Kalam believes that womanhood is a beautiful creation of God and he strongly favours women education. He says that women have an important role in making good homes and developing enlightened citizens who are the asset for the nation, in addition to contributing in various professions based on their specialization and expertise. Women should be empowered through quality education and raise their capacity to contribute to the society as enlightened women are very important for nation building since their thoughts, the way of working and value system will lead to faster development of a good family, good society and a good nation. Thus, the women of India have tremendous opportunity for participating in the mission of transforming India into a developed nation before 2020. Women education, therefore, should be emphasized not only on grounds of social justice but also because it accelerates economic and social transformation.

**Figure 9: National Policy on Education (1986) and Its Recommendations**

The National Policy on Education (1986) says, education will be used as an agent of basic change in the status of woman. In order to neutralize the accumulated distortions of the past, there will be a well-conceived edge in favour of women. The National Education System will play a positive, interventionist role in the empowerment of women. It will foster the development of new values through redesigned curricula, textbooks, the training and orientation of teachers, decision makers and administrators, and the active involvement of educational institutions. This will be an act of faith and social engineering. Women studies will be promoted as a part of various courses and educational institutions will be encouraged to take up active programmes to further women's development. Thus, it is clear that Dr. A.P.J. Abdul Kalam's ideas about women education coincide with the National Policy on Education (1986).

Women are to play a very prominent role in making India a developed nation. For making them able to perform their role properly, it's necessary to empower them through education. So, Dr. Kalam's views in this regard are very much relevant in the present education system.

### 6.9 Virtual Laboratories and Virtual Universities

Dr. A.P.J. Abdul Kalam is in favour of Virtual Laboratories and Virtual Universities. He says that India has rich knowledge institutions but what we have to add is connectivity through Internet. 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. In the world of virtual universities, the equitable access to all its participants is the primary goal. His 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. So, Dr. Kalam's views in this regard are very much relevant in the present education system.

### 6.10 Reducing Dropouts

Dr. A.P.J. Abdul Kalam observes that the fundamental reasons for large dropouts in our country can be poverty, school environment, lack of background to understand the value of education, inadequate mentors for the families and day-to-day pressures of life. The parents of children have to be counseled to understand the value of education as a knowledge source and inspiration for the mission of life. He further advises that apart from attracting children to schools, education system should be able to provide nourishment and inject creativity among students. He says that too many entrance examinations, which the children have to appear from nursery up to plus two level for entry into schools, colleges and universities and professional courses, are a heavy burden on the children. These exams should be minimized. He suggests that for entry into universities and professional courses, a Common All India Examination should be devised to be conducted by a nominated institution of government. Increasing rate of dropouts is an issue of concern for all. If India wants to get the status of a developed country, it must work to reduce the rate of dropouts. Thus, Dr. Kalam has rightly emphasized the need of taking necessary steps in this regard.

### 6.11 Role of the Teacher

Even now in India, teachers are not at liberty to teach the way they like and are always functioning within the laid down boundaries. The curriculum is almost always pre-determined. The timetable is fixed. The method of teaching is mostly controlled by the bureaucratic elements. The word „academic freedom“ is more a dictionary term than a practicing ideology.

**Figure 10: National Policy on Education (1986) and Its Recommendations**

The National Policy on Education of 1986 says, teachers have to play pivotal role in reforming education at all levels. In order that they can play this role they should be inspired by creative idealism and feel pride in their profession. Suitable steps should be taken to improve the professional competence of teachers at all levels. The academic freedom of the teachers to conduct research and make experiments and innovations should be assured.

Dr. A.P.J. Abdul Kalam is in favour of the initiatives for improving the living conditions and professional competence. He wants that teacher's profession should be treated as a noble profession. They should get good habitat, good quality of life and an opportunity to acquire knowledge continuously. According to the National Policy on Education of 1986, the status of the teacher reflects the socio-cultural ethos of the society. It is said that no people can rise above the level of its teachers. The government and the community should endeavor to create conditions, which will help to motivate and inspire teachers on constructive and creative lines. Teachers should have the freedom to be innovative, to devise appropriate methods of teaching and communication relevant to the needs and capabilities students and the concerns of the society. Dr. A.P.J. Abdul Kalam stresses the need of quality teachers with full commitment to the great mission of teaching. They should realize that by being a teacher that they are making an important contribution to the efforts of national development. Dr. Kalam says that a great teacher evolves great citizens, as the teacher is the child's window to learning. Young children studying in primary and secondary schools should be blessed with good teachers, as this is the age when children need a positive role model. The children see the teacher, as a role model in teaching. The teacher conducting himself or herself in a noble way itself is a lifetime message for students. Dr. A.P.J. Abdul Kalam considers teachers very important and says that they are the backbone of the country. The teacher's love for teaching is very essential, with teaching as the soul of the teacher. They should treat all the students equally and should not support any differentiation on account of religion, community or language. The teachers should celebrate the success of their students. According to the National Policy on Education of 1986, the teaching community should become increasingly aware of the crucial importance of their role in moulding the lives and character of the future citizens of the nation. The teachers should be themselves model citizens, committed to the task of national and social construction. Thus Dr. Kalam's ideas about the role of teacher very well coincide with the recommendations of the National Policy on Education (1986). Teachers are the future builders of any nation. They play a very significant role in the character formation of the students. 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 is increasing, the teachers have to play their role effectively and guide the students in a positive direction. Thus, Dr. Kalam has rightly stressed the role of teachers in present education system.

### 6.12 Role of Parents

Dr. A.P.J. Abdul Kalam insists that parents have an important role in the education of the children and in making them enlightened citizens thus they must be aware of the need for good education of the child, male or female. The full development of a child with a value system can only come from parents and teachers. Like teachers, parents also should set an example for the child in their overall behavior and conduct. This will enable the child to develop love and respect for his parents and see them as role models as role models can help anyone to focus on what is correct for him as individual, as group, and as a nation. They can lead him to great success. Mother, father and elementary school teachers play a very important part as role models. Home is the most important part of any person's life. It is well said that parents are the first teacher of a child. The role of parents is also going through drastic changes with the changing times. Now days, they have to be more responsible for shaping the future of their children. So, Dr. Kalam rightly emphasizes the role of parents in present education system.

## VII. MAIN FINDINGS

**7.1 : Concept of Education:** The primary purpose of education in 21<sup>st</sup> century 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. 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. Dr. Kalam has given an educational philosophy, which takes into account the present educational problems and future perspectives of education in India so his thoughts about education are relevant in present education system.

**7.2 Aims of Education:** Dr. A.P.J. Abdul Kalam also wants such education that aims at building in the students the capacities to deal with the real world, to grow in their professional career and participate in the national development. He further adds that the aim of the education system should be to create employment generators rather than employment seekers. He says that education should develop the capacities for inquiry, creativity, technology, entrepreneurial and moral leadership. Education should develop children into good human beings with knowledge and value system. It should transform them into self-directed, self-controlled, lifelong learners. It should aim at developing a strong moral value system. He says that education should aim at harmonious development of the individual.

**7.3 Curriculum:** Dr. A.P.J. Abdul Kalam wants a flexible curriculum that gives freedom to the students to take up subjects of their interest be it poetry, music, art or philosophy, commerce, literature, finance and all the other disciplines of engineering. He advocates such education that prepares students to deal with the real life and real world. Dr. A.P.J. Abdul Kalam suggests that the students should be equipped with knowledge on subjects like leadership, management, finance, marketing, inter-personal relationship, negotiation, entrepreneurship, IT/ITES applications, knowledge process outsourcing domain expertise and also adaptation of ethical values in all professional transactions. He wants that technical and vocational education should be provided to the students.

**7.4 Moral Education:** Dr. A.P.J. Abdul Kalam insists that if the child misses the value-based education, no government or society can establish a transparent society or a society with integrity. He also adds that spirituality must be integrated with education and self-realization should be the focus. Everyone should be aware of his higher self.

**7.5 Research in Education:** Since Universities are the reservoir of knowledge and also the prime knowledge generation centers of the nation so in order to promote scientific research, the brilliant minds in the university should be identified and should be provided with the right type of scientific environment to pursue fundamental research of their choice. Equal emphasis is needed in research in the areas of arts and literature, humanities, political science, law, economics, commerce, and management along with scientific researches to promote balanced growth of the societal system preserving the civilization heritage.

**7.6 Methods of Teaching:** Dr. A.P.J. Abdul Kalam also advocates that the education system has to be creative, interactive, self-learning and informal with focus on values, merit and quality instead of being textbook based teaching. He says that the real teaching is one where the teachers give theoretical lesson coupled with a live practical example available in nature.

**7.7 Examination Reforms:** Education has to be based on application and intelligence( with open book exams wherever necessary) instead of trying to test memory of knowledge.

**7.8 Women Education:** Women should be empowered through quality education and raise their capacity to contribute to the society as enlightened women are very important for nation building since their thoughts, the way of working and value system will lead to faster development of a good family, good society and a good nation.

**7.9 Virtual Laboratories and Virtual Universities:** India has rich knowledge institutions but what we have to add is connectivity through Internet. 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. In the world of virtual universities, the equitable access to all its participants is the primary goal.

**7.10 Reducing Dropouts:** Dr. A.P.J. Abdul kalam observes that the fundamental reasons for large dropouts in our country can be poverty, school environment, lack of back ground to understand the value of education, inadequate mentors for the families and day-to-day pressures of life.

**7.11 Role of the Teacher:** In modern times, when life is becoming more and more complex and frustration among students is increasing, the teachers have to play their role effectively and guide the students in a positive direction.

**7.12 Role of Parents:** The full development of a child with a value system can only come from parents and teachers. Like teachers, parents also should set an example for the child in their overall behavior and conduct. This will enable the child to develop love and respect for his parents and see them as role models as role models can help anyone to focus on what is correct for him as individual, as group, and as a nation.

## VIII. CONCLUSION

**The primary purpose of education** in 21<sup>st</sup> century 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. 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. Dr. Kalam has given an educational philosophy, which takes into account the present educational problems and future perspectives of education in India. Dr. Kalam also wants such education that aims at building in the students the capacities to deal with the real world, to grow in their professional career and participate in the national development. He further adds that the aim of the education system should be to create employment generators rather than employment seekers. He says that education should develop the capacities for inquiry, creativity, technology, entrepreneurial and moral leadership. Education should develop children into good human beings with knowledge and value system. It should transform them into self-directed, self-controlled, lifelong learners. It should aim at developing a strong moral value system. He says that education should aim at harmonious development of the individual. Dr. A.P.J. Abdul Kalam insists that if the child misses the value-based education, no government or society can establish a transparent society or a society with integrity. He also adds that spirituality must be integrated with education and self-realization should be the focus. Everyone should be aware of his higher self. Since Universities are the reservoir of knowledge and also the prime knowledge generation centers of the nation so in order to promote scientific research, the brilliant minds in the university should be identified and should be provided with the right type of scientific environment to pursue fundamental research of their choice. Equal



emphasis is needed in research in the areas of arts and literature, humanities, political science, law, economics, commerce, and management along with scientific researches to promote balanced growth of the societal system preserving the civilization heritage. Dr. A.P.J. Abdul Kalam also advocates that the education system has to be creative, interactive, self-learning and informal with focus on values, merit and quality instead of being textbook based teaching. He says that the real teaching is one where the teachers give theoretical lesson coupled with a live practical example available in nature. Women should be empowered through quality education and raise their capacity to contribute to the society as enlightened women are very important for nation building since their thoughts, the way of working and value system will lead to faster development of a good family, good society and a good nation. Thus, Dr.Kalam has contributed his educational thoughts to the present educational system in 21<sup>st</sup> century.

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