

Chapter: 1

Introduction

1.1 Introduction

“There is a great man who makes every man feel small. But the real great man is the man who makes every man feels great.”

–Charles Dickens

India is a country of saints, where legends are born. The lives of the great persons are highly inspirable for the others. They have positive attitude towards country as well as in the field of the education. One of the such person is Dr.APJ Abdul Kalam whose vision for India is very clear by 2020 and also believe to prepare young minds in such a way that they becomes lifelong autonomous learners. Here is brief life sketch of Dr. Kalam.

Avul Pakir Jainulabdeen Abdul Kalam was born into a middle-class Tamil family, on the 15th day of October 1931 in Rameshwaram. His father, Jainulabdeen was not highly educated and also a rich person but he possessed a truly generous spirit. His mother, Ashimma came from a more distinguished family.

He graduated in physics from *St. Joseph's college at tiruchirapalli*. Than after Abdul Kalam completed his graduation in Aeronautical Engineering with a diploma in the mid-1950s from the *Madras Institute of technology*. Dr. Kalam has been often referred to as the "Missile Man of India" and was the Project Director of India's first indigenous Satelllite Launch Vehicle (SLV-III). Dr. Kalam had a major role to play in developing many missiles in India including *Agni* and *Prithvi* as the Chief Executive of the *Integrated Guided Missile Development Program* (I.G.M.D.P). He was also the Chief Scientific Adviser to the Prime Minister and the Secretary of *Deface research and Development Organization* from July 1992 to December 1999. Today, APJ Abdul Kalam is one of the leading aerospace engineers of India. More popularly known as Dr. A.P.J Abdul Kalam this man was the 11th president of India, serving from 2002 to 2007. He was nominated

president during the term of the National Democratic Alliance (India) coalition government under Prime Minister Atal Bihari Vajpayee. During his tenure as President, he was prevalently known as the *People's President*.

Dr. Kalam has written many books but for the present study researcher has selected only three books authored by Dr. Kalam – *Wings of Fire*, *You Are Born To Blossom* and *India 2020*. Here is the brief description of the books:

“Wings of Fire” is the biography of Indian former president and India’s greatest scientist Dr. APJ Abdul Kalam. It’s a journey of a humble, poor child of Rameshwaram, born into a little educated family of boat owner who has the dream in his eyes of making the India nuclear superpower. And the story of how he achieved his dream, and how much hard work he put into effort to make his dream come true is shown by him in “Wings of Fire” With Arun Tiwar. Dr. Kalam is the person who has even dreamed of making the India a developed country by 2020. This book is a great inspirational source and also heart touching for each and everyone who wants to achieve something in their life and wants to make their dream come true.

“You Are Born To Blossom” again presents Dr. Kalam’s faith in the immense possibility in human minds. According to him education is the means of full personal development by development Dr. Kalam means physical as well as spiritual development. Being a scientist par-excellence, he also has trust in positive views about Science and Technology to develop human minds. This book refers to a contextual contribution of a large number of Indian scientist and artists and proves that there is no age bar to blossom. The book is an attempt to include young minds to realize that tremendous resources and supports system exist in the field of education. It also serves for the well purpose to inspire young minds and opens the door for creative perception and to pour skills among younger which help them when they are needed for the growth of the nation.

“India 2020 – A Vision for the New Millennium” is dedicated to a ten year old girl who came up to Dr. Kalam for his autograph. ‘What is your ambitious?’ he asked her. ‘I want to live in a developed India,’ she replied without hesitation. This book is dedicated to her and the millions of Indians who share her aspiration. This

book is talk about the weaknesses and strength of India in depth. As a visionary person, Kalam clearly shows his vision for India by 2020 in this book. This book is an attempt to share some of the thoughts of Dr. Kalam by disclosing elements of a few action plans, which can be mission for many young people in the country. He hopes that these will help to stimulate young Indians and ignite their minds in the same way that they were ignited by the space programme three decades ago. Their vision ahead for the country and the mission they see before they make the feel young even now. A developed India, by 2020 or even earlier is not a dream. It need not even be a mere aspiration in the minds of many Indians. It is a mission which can all take up and accomplish.

1.2 Statement of the Problem

“Educational Implications of the Selected Books Authored by Dr.APJ Abdul Kalam”

1.3 Operationalisation of Terms

Education

Education plays an important role in moulding the character and personality of an individual.

“By education I mean an all round drawing out of the best in the child and man-body, mind and spirit”.

-Mahatma Ghandhiji

“Education is the manifestation of perfection already in man.”

-Swami Vivekanand

“Education is not preparation for life; education is life itself.”

- John Dewey

Education does not mean only academic qualification or getting degrees only. Education meant by an all round development of the child – mental, physical, social, spiritual development. The researcher has in her study taken ‘Education’ word to mean not formal but informal education which a person gets after reading great books.

Implications

The word "implication" can appear in a number of forms, these being "imply", "implicate", "implicated", "implicates", "implication", and "implications".

“An implication is something that is suggested or implied by a particular situation, event or statement.”

-Callings cobuild English language Dictionary.

“A possible effect or result of an action or a decision.”

-Horn. By A.S. Oxford Advanced learner’s Dictionary of current Eng.

By implications the researcher means the use of the books authored by Dr. Kalam for education purpose.

1.4 Objectives of the Research

- To find out educational implications of the selected books of Dr.APJ Abdul Kalam
- To study Dr.APJ Abdul Kalam’s reverence and respect for his teachers
- To test the journey of a humble and poor child to become the president of India
- To study the democratic and secular view point of Dr.APJ Abdul Kalam
- To study the potential of India as described by Dr.APJ Abdul Kalam
- To study the vision of Dr.APJ Abdul Kalam about India
- To study Dr.APJ Abdul Kalam’s views on science and technology
- To study the opinion of experts regarding Dr. APJ Abdul Kalam

1.5 Research Questions

- What are the educational Implications of selected books Dr.APJ Abdul Kalam?
- What are the influences of Dr.APJ Abdul Kalam’s personality on education?
- What are the democratic and secular view points of Dr.APJ Abdul Kalam?
- What are the visions of Dr. Kalam’s about India?
- What are the opinions of experts regarding Dr. APJ Abdul Kalam?

1.6 Delimitation of the Study

The present study is delimited only educational implications of following selected books of Dr. Kalam:

‘The Wings of Fire’,
‘You Are Born To Blossom’ and
‘India in 2020’

1.7 Rational of the Study

India is a land of saints, philosophers, scientists, doctors; educationist etc. from this entire field the people contributed much in the development of the country and as well as in the field of education. The great persons like Sant kabir, Ghandhiji, Rabindranath Tagore, Dr. Radhakrishnan, Dr B.R.Ambedkar, Dr. Vikrambhair Sarabhai, C. V. Raman; etc. In the present galaxy of stars Dr. APJ Abdul Kalam is one of the most shining stars. Dr. Kalam who is a man of vision, always full of ideas, aims at the development of the country and is also often referred to as the “Missile Man of India”. Besides being a scientist of high caliber, the ex-president of India Dr. Abdul Kalam is also a poet and a lover of music. Although he has a very few leisure’s in his busy schedule. He is also fond of playing on Veena. He is a scientist who thinks, dreams, lives and breathes science.

Dr. Kalam’s unselfish, hard-work, dedication and devotion to noble cause, his speculate rise from lower middle class family to post of senior Scientist and Rashtrapati is really inspiring tale for every Indian. Even Bollywood got inspired from his motivating struggle and positive outlook. A movie “I am Kalam” is inspired by real life, a struggle of Dr. Kalam. The movie is inspirational, intelligent, topical and entertaining too. More importantly, it brims over with heart and soul, leaving no one untouched with its simple message of providing an equal opportunity -- specially the right to education -- to every child in the world. I Am Kalam, finally articulates a near-perfect children's film, with an equal appeal for adults too.

The researcher wants to study the Educational Implications of the selected books authored by Dr. Kalam because she feels that Dr. Kalam’s life is inspirable and motivating for everyone. One should be inspired through his life, how the humble and

poor child becomes the president of India. The life of Dr. Kalam becomes the great example for the struggler. The researcher herself inspire by Dr. Kalam.

1.8 Scheme of Chapterization

Planning of any work is the representation of the future work. It is very necessary to plan out any work before put into practice. The planning of the chapters is as follow:

Chapter: 1 Introduction

The first chapter deals with an introduction. In this chapter the researcher described the life of Dr. Kalam, the brief summary of the three books which are selected for the present study. This chapter also talks about the research objectives, research questions of the present study.

Chapter: 2 Conceptual Framework

The second chapter is about Conceptual Framework which includes the life sketch of Dr. Kalam in detail, the brief summary of the all the books authored by Dr. Kalam and also gives some details about the contribution of the great person's in the field of education.

Chapter: 3 Review of Related Literature

This chapter deals with Review of Related Literature. The researcher includes reviews of classical books, reviews of Indian novels, reviews of English novels and reviews of individual thinkers.

Chapter: 4 Research Methodology

This chapter presents Research Methodology. It discusses the research method used by the researcher in detail.

Chapter: 5 Content Analysis

This chapter consists Content Analysis of the selected books authored by Dr. Kalam.

Chapter: 6 Implications and Suggestions

In this chapter the researcher has presented educational implications of the selected books authored by Dr. Kalam on the basis of her content analysis.

This chapter will be followed by the next chapter of Conceptual Framework.

Chapter: 2

Conceptual Framework

2.1 Introduction

“Lives of great man all remind us; we can make our lives sublime. And departing leave behind us foot-prints on the sands of time.”

-Longfellow

Great persons like Ghandhiji, Mother Teresa, Rabindranath Tagore, and Dr. Radhakrishnan have influenced and inspired the masses radically. They have been successful in moulding the destiny of the country in the positive direction Dr.Kalam is one of such illustrious persons whose contribution in the development of the country and education can never be ignored. Here is a brief description of his life:

2.2 Life sketch of Dr. Kalam

Avul Pakir Jainulabdeen Abdul Kala was born into a middle-class Tamil family, on the 15th day of October 1931 in Rameshwaram. From remote Rameshwaram island in Tamil Nadu to New Delhi’s imposing Rashtrapati Bhavan is quite a journey. Especially for a boat owner’s son who sold newspapers as a child, this 70 years journey is an epitome of determination and total focus.

Kalam’s family was not well off, and early in life he did odd jobs like hawking newspapers. He joined Schwartz High School in Ramanathpuram, where he was fortunate to study under some inspiring teachers. In 1950, he arrived at St. Joseph’s college at Tiruchirapalli, to study for the Intermediate examination. He stayed at the St. Joseph’s campus for four years and in the final year he acquired a taste for English literature and philosophy. He began to read the great classics – Tolstoy, Scott and Hardy, and also developed a keen interest in Physics.

After his Intermediate exam, he joined B.Sc course at St. Joseph’s college. It was only after he passed out of college that he realized that Physics, though fascinating was not his favourite subject. He needed to take up Engineering to realize his dreams, and he decided to apply for admission at Madras Institute of technology

(MIT), at that time and even now, among the best place for technical education in India. At MIT, his goal was very clear – he was going to fly aircraft and that’s why after completing his first year, he had to opt for a specific branch and he chose Aeronautical Engineering. At MIT three teachers shaped his thinking to build his professional career – Professor Sponder, KAV Pandalai and Narasingha Rao. Professor Sponder taught him technical aerodynamic, KAV Pandalai taught him aero-structure design and analysis and Narasingha Rao taught him theoretical aerodynamics.

From MIT, he went as a trainee to Hindustan Aeronautics Limited (HAL) at Bangalore, where he worked on engine overhauling as a part of a team. Soon after, he got the two different opportunities for employment. One was a career in Indian Air Force (IAF), the other, a job at the Directorate of Technical development and Production or DTD&P (Air), of the Ministry of Defence. He applied for both and was called for interviews at both places almost simultaneously. He was asked to come to Dehradun by the Air Force Recruitment and to New Delhi by DTD&P (Air). But unfortunately he could not get the job in IAF. He returned to Delhi and enquired at DTD&P (Air) about the outcome of his interview. In response, he was handed his appointment letter. He joined the next day as senior scientific assistant on a basic salary of Rs.250 per month.

At the directorate, he was posted at the Technical Centre (Civil Aviation). During his first year, he carried out a design assignment on supersonic target aircraft with the help of the officer-in-charge, R Varadharajan. Soon, he was sent to the Aircraft and Armament Testing Unit (A&ATU) at Kanpur to gain actual experience and practice in aircraft maintenance. The *Gnat Mark II* aircraft was being assessed, and he was to work on it.

Three years passed. Then the Aeronautical Development Establishment (ADE) was born in Bangalore and he was posted to the new establishment. After few days, he received a call from the Indian Committee for Space Research (INCOSPAR), to attend an interview for the post of a rocket engineer. He went to Bombay to attend the interview and he was interviewed by Prof. Vikram Sarabhai along with Prof. Menon and Mr. Saraf, then deputy secretary of the Atomic Energy Commission. He was to be absorbed as a Rocket Engineer at INCOSPAR.

In 1962, he joined Indian Committee for Space Research (INCOSPAR), a fledgling Indian Space Institute, which would later be re-formed as Indian Space Research Organization (ISRO). He was soon posted at newly formed Thumba Equatorial Earth Launching Station (TERLS) near Thiruvananthapuram.

During 1963-82, he served the Indian Space Research Organization (ISRO) in various capacities and position, including as Project Director for Satellite Launch Vehicle, SLV-3. During the period, the Defence Research and Development Organization (DRDO) began developing its own indigenous surface-to-air missile, project to which Kalam was shifted in 1975 as a rocket specialist to evaluate the progress made in aerodynamics, structure and propulsion of the missile.

The SLV project set three goals for themselves: Development and flight qualification of all subsystems through sounding rockets by 1975, sub-orbital flights by 1976 and the final orbital flight in 1978. After years of dedicated effort by Kalam and his team, the first 23-metre, 17 ton, 4 stages SLV was ready for launch. It failed. Undeterred, the team went ahead, and on July 18, 1980, India's first Satellite Launch Vehicle, SLV-3, lifted off from SHAR successfully. Amidst widespread acclaim, the team set itself new goals, including development of Augmented Satellite Launch Vehicles (ASLVs). 1981 saw the Launch of the next SLV-3, SLV-D. With the launch of the SLV-3 India became the fifth country to achieve satellite launch capability.

In February, 1982, the decision was taken to appoint Kalam as Director, DRDL. Kalam was entrusted with the development of Integrated Guided Missile Development Programme (IGMDP), India's most successful military research programme. The programme constituted of five major projects for establishing missile re-entry technology. The five projects scheduled for completion in ten years consisted of:

- *Prithavi – a surface-to-surface battlefield missile*
- *Trishul – a quick-reaction surface-to-air missile with a shortage range*
- *Nag – an anti-tank guided missile*
- *Akash – a swift, medium-range surface-to-air missile*
- *Agni – an intermediate range ballistic missile*

On September 16, 1985, the first launch of Missile Programme was conducted, when *Trishul* took off from the test range at Sriharikota. This followed his being honoured by Padma Vibhushan in 1990, the year that also saw the successful test-firing of *Akash*. An even greater one, the successful testing of *Agni* in 1989, followed the achievement. After successful launch of *Agni*, he wrote in his diary

***Do not look at Agni
As an entity directed upward
To deter the ominous
Or exhibit your might
It is fire
In the heart of an Indian
Do not even give it
The form of a missile
As it clings to the
Burning pride of this nation
And thus is bright.***

In recognition for his contribution to Indian Defence he was awarded the Bharat Ratna in 1997. Soon after the nuclear tests of 1998, Kalam was nominated Principal Scientific Advisor to the Government of India with the rank of a Union Cabinet Minister in November 1999, a position he held till November 2001. Kalam has a five-point vision for India:

- India should produce 350,000,000 tons of food grains
- Optimize energy production
- Provide excellent medical and educational facilities
- To utilise information technology for overall development
- To take huge strides in sectors like defence, nuclear and space technologies.

Apart from being a notable scientist and engineer, Dr. A. P. J. Abdul Kalam has served as the 11th President of India from 2002 to 2007. Dr. Kalam's life is itself inspiring and motivating for everyone. During his term as India's President, he was popularly known as the People's President. Before his term as India's

president, he worked as an aeronautical engineer with DRDO and ISRO. He is popularly known as the “Missile Man of India” for his work on development of ballistic missile and space rocket technology. Kalam took important roles in India’s Pokhran-II nuclear test in 1998.

APJ Abdul Kalam is a man of vision, who is always full of ideas aimed at the development of the country. He firmly believes that India needs to play a more assertive role in international relations. Dr. Kalam had received honorary doctorates from 30 universities and institutions, and he is the recipient of many awards including India’s highest award *Bharat Ratna*.

Dr. Kalam has proposed a research programme for developing bio-implants and Space solar power. And, he is a supporter of Open Source (e.g. Linux, Mozilla Firefox, and apache) over proprietary solutions and believes that the use of free software on a large scale will bring the benefits of information technology to more people. He is doing teaching and research tasks. Above all he took up a mission to ignite the young minds for national development by meeting high school students across the country.

2.3 Important Books Authored by Dr. Kalam

“Books are the precious life blood of great souls”

Generally all great people present their views and ideas in the form of books. Dr. Kalam has written so books which present his views and ideas about India and Indian people. His famous books are:

- “Wings of Fire” (*An Autobiography of APJ Abdul Kalam*),
- “India 2020 – A Vision for the New Millennium”,
- “Envisioning an Empowered Nation”,
- “Ignited Minds – Unleashing the power within India”,
- “Children Ask Kalam”
- “Developments in Fluid Mechanics and Space Technology”,
- “The Luminous Sparks”,

- “The Life Tree”,
- “Mission India”,
- “Guiding Souls”,
- “Indomitable Spirit”
- “Inspiring Thoughts” and
- “You Are Born To Blossom”

Children Ask Kalam

Children Ask Kalam is unique collection of the communication between Dr Kalam and children. Dr APJ Abdul Kalam, widely loved and admired by people of all age groups, is very popular with children. Every day, hundreds of children from every nook and corner of the country write to Dr. Kalam asking him questions on a variety of topics. Sharing their concerns Kalam takes time out to respond to these queries. This book brings Dr Kalam's view on a variety of topics to a wider audience. The president's answers bring to the fore his multifaceted personality. Though he writes in simple language, one will find that his answers do not shy away from addressing the most complex of issues. The letters have been selected carefully after much thought. For the purpose of clarity, the book is divided into six themes - education, science, children's issues, nation, spirituality and general. This book brings to fore the concerns of the children of this country and our President's initiatives to alleviate them.

Guiding Souls

This book is a dialogue on the purpose of life offers answers to many such questions. The questions like: “What is to become of men? How can I set out on my own into a world that seems filled with conflict and strife? How do I cope with day-to-day pressures? How can my life be useful and happy?” These and others such questions are frequently put by the students and young professionals, to the visionary President Dr. Kalam answers the following question in this book.

Dr. A.P.J. Abdul Kalam and Prof. Arun K. Tiwari, in this book outline a spiritual approach to life. Appealing to the innocent creativity of youth, the book rejects both extremes-hype and hoop-la of globalization and the pessimism of seeing the world as a theatre of conflict-and describes the ultimate goal and mission of

humanity as constituting the task of helping evolution on planet Earth. The book covers a wide spectrum of history and human activity. It evokes the presence of some great human beings who walked on this planet as exemplars for the ideals presented in the book.

Indomitable Spirit

Dr. APJ Abdul Kalam has a very clearly and cleverly emotions and passion about India, and the issues and concerns India stands facing. The book takes one into a fascinating journey of the certain Inspiring Lives of people, like Bharat Ratna, MS Subbulakshmi, Prof. Vikram Sarabhai, Prof. Brahm Prakash, Prof. MGK Menon, Dr. Raja Ramanna, and talks about the great visionaries who have crafted the nation. The book also highlights the Teachers in the life of Dr. APJ Abdul Kalam, and who influenced him to be what he is today. Few quotes from this book:

1. Learning needs freedom to think and freedom to imagine, and both have to be facilitated by the teacher
2. A good teacher, with meticulous planning, prepares himself for teaching and the student for acquisition of knowledge.
3. Teachers should be the best minds in the country.
4. The Purpose of teaching is to create nation building capacities in students.

This book deals deeper into the “The Mission of Education”, and why it is important to retain the smile of the child and the role of parents, role of school. Further he talks about “Creativity and Innovation” and “Art and literature”, and how Art helps to bring out the beauty of life in its noblest form.

“See the flower, how generously it distributes perfume and honey. It gives to all, gives freely of its love and when its work is done, it falls away quietly. Try to be like this flower, unassuming despite all its qualities”.

It is also dedicated to a much hyped arena , “Science and spirituality”, “Tomorrow’s citizens”, ” Empowered Woman”, “Towards a Knowledge society” and “Building a Developed India”, “Enlightened Citizenship” and “Creative

Leadership” as he went ahead to quote that, “Quality leaders are like magnets, they attract the best people”. He highlights 3 traits of a creative leader:

1. A leader sees far into future
2. A leader absorbs failure
3. A leader celebrates other’s success

The book also talks about “Indomitable Spirit”. Here he outlines two components of Indomitable spirit:

1. A vision leading to higher goals of achievement
2. Ability to overcome all hurdles coming in way of Mission accomplishment

At last the book ends with some fabulous quotes which will linger long in memories.

1. Power comes from Inside
2. You have to evolve yourself and shape your life
3. Perception of disabilities lies in the Mind.

Mission India

“Each and every Indian can make a difference, especially the nation's youth”

Mission India is a road map for the youth of today who will shape the India of tomorrow. The mission is to transform India into a developed nation and one of the world's top five economic powers by the year 2020. Dr A.P.J. Abdul Kalam and Y.S. Rajan examine India's strengths and weaknesses to show how this goal is not an unrealistic one. This inspirational book introduces children to the unknown success stories of India and discusses the country's problems at the beginning of the twenty-first century. It looks at different aspects of national life, and clearly explains the achievements and challenges in each of these areas. It also discusses the ways in which today's youth can make a difference to the country. Based on the central tenets of the runaway best-seller, India 2020: A Vision for the New Millennium, this book seeks to inspire readers with the crucial sense of purpose which is essential for developing a strong and prosperous nation

The Life Tree

Dr A.P.J. Abdul Kalam, has contributed invaluablely to our country's progress in space research and defence technologies. However, he is not only an eminent scientist. He is also a sensitive and thoughtful poet. This confluence of scientific

brilliance and poetic talent is truly unique. The poem contained in this book brings out Dr. Kalam's deep love for India and her rich culture. Together with his devotion to God and to this Motherland, his devotion to humanity is also uniquely manifested in these poems. Believing his ability and achievements to be God's gifts, he has dedicated them to the welfare of the Indian people. Through the medium of his poetry, he has sent a message of selfless service, dedication and pure faith.

Dr. Kalam has always been an opponent of communalism, classism, linguistic chauvinism, regionalism and violence. Showing a profound understanding of Indian society, he attempts to find solution to problems with compassion, detachment, forbearance and sympathy. In this poem he has attempted, very credibly, to express in simple terms even a concept as complex as the search for God.

***O creator of dreams,
Why do you keep searching for God?
Nature is His home, purity His abode
And Life is but His blessing!
Keep loving nature and care for its being,
Then you can see divinity all over!'***

As a true Indian, Dr. Kalam is naturally distressed by the misuse of religion for ungodly ends. Nevertheless, he is confident that true faith in God and compassion for humankind can save us from the poison of communalism and casteism. He says:

***The so-called educated separate our souls....
They give not knowledge but hate and defeat;
Tell others not to heed their unwanted advice,
As the Almighty created all equal and free.***

Behind his scientific achievements and poetic works, Dr. Kalam dreams of better world for the children of India and the world. He says:

***I have no house, only open space
Filled with truth, kindness, desire and dreams:
Desire to see my country developed and great,
Dreams to see happiness and peace abound.***

The Luminous Sparks

"Successful leaders can never be defeated by problems. They become master of the situation and defeat the problems."

The Luminous Sparks kindles the 'dreaming gaze' of an inspired leader into a powerful vision. A vision that makes the seer and the scientist say, "Blossom we will". For the process he envisions to effect this change constituting harmony, gratitude, love that is 'continuum' and a "life of giving". Dr. A P J Abdul Kalam once again *ignites the minds* of readers through his biography in verse and colours.

More importantly, here "the poet's saplings of love meant to change the hearts. The sparks to ignite the inner divinity. A hidden energy vibrates in the lines of the poems. The poems are as simple and ideas as transparent as is the persona of the poet. A P J Abdul Kalam selects interesting but earthy episodes from his life that motivated him in his musings. The moving anecdotes are followed by the inspirational verses replete with nature imagery. The vivid illustrations by artistes enhance the visual splendor of the book. *The Luminous Sparks* delights the senses as much as it stirs the inner fire in our souls because of this creative collaboration and "unity of minds".

His inclusion of the poem on **Bihar** is particularly thought-provoking. Drawing inspiration from the great minds who took birth in this sacred soil - Buddha, Aryabhata, Guru Gobind Singh, Mahaveera – he wrote this inspiring verse when he met the children of Bihar. What moves us especially is the sensitive voice of the child that speaks against communal disharmony and intolerance – "These educated serpents separate our souls. They give not the knowledge but hate and defeat..." The young child also identifies the true leader as he saw Mahatma Gandhi who was always there "where there was pain". For leadership is about selflessness, "elevated thinking and concern for human beings". It is a collection of poems that essentially reflects the former President's love for children and his sincere faith in them as the most precious assets of a nation. Their years of growing may be fraught with uncertainties, conflicts and angst as he says in **Pursuit of Happiness** but it is they who will fulfill his second vision for our "developing nation" to become a "developed nation". He instills a sense of the responsibility in the young minds as he speaks of the "mission of humanity –

you learn and learn, my best of creations”. After reading the verses, we are reminded of Nobel Laureate, Rabindranath Tagore’s impassioned words to his countrymen.

Where the mind is without fear and the head is held high;

Where knowledge is free;

***Where the world has not been broken up into
fragments by narrow domestic walls;***

Ignited Minds

I climbed and climbed

Where is the peak, my Lord?

I ploughed and ploughed,

Where is the knowledge treasure, my Lord?

I sailed and sailed,

Where is the island of peace, my Lord?

Almighty, bless my nation

With vision and sweat resulting into happiness

Dr. Kalam has dedicated Ignited Minds to a High School child, named Snehal Thakkar, whom he met at a school. While talking to the students, a question had come up: "Who is our enemy?" Kalam recalled that many answers came up, but the answer on which all agreed, came from her (Snehal Thakkar): "Our enemy is poverty".

It is a highly motivating book for young Indians, as also to anyone interested in understanding the reasons for remaining behind in the march of human civilization. The small book of 205 pages contains dynamic and original ideas, examines attitudes afflicting the Indians, and presents prescriptions for rapid growth of India to enable the country to emerge as a developed country. The scientist and the seer inside Kalam have addressed the book to young citizen/s of India.

Envisioning an Empowered Nation

“The Interactions with students and youth from all parts of the country and the series of lectures given to the engineering students of Anna University, and students of other universities, colleges and schools, resulted in evolving this book. Hence the book is dedicated to the youth and the student community of India”.

Dr. Kalam has visited almost all parts of India and interacted with people from all walks of life- students, youths, farmers, scientists, engineers, technicians, doctors, medical staff, educationists, industrialists, armed forces personnel, spiritual leaders, political leaders, administrators, economists, artists, sports persons, physically and mentally challenged and the rural populace. School children and youth also interacted with him through his website. He gave many suggestions on making India a developed nation and their role in achieving this mission. He would like to highlight a few of the suggestions, among the many, which he received from children and youth. The aspiration of young ignited minds to make the nation great is evident. It is important to recognise that India has a population of 700 million such young minds. This is a large force, which needs to be harnessed constructively towards a singular mission of making India a developed country. Like the young, every citizen of India he interacted with, would like to live in a happy, prosperous, peaceful and safe India.

Kalam has seen the beauty of our country in the deserts, mountains, seashores, forests and in the fields. India has a rich, civilization, heritage, resource, talented workforce and above all there is potential due to the emergence of a knowledge society. Still 26% of the Indian population is below the poverty line, illiteracy and large scale unemployment persist. While it is imperative to address these problems, it is also necessary to increase the economic growth. This can be achieved by an effective management of resources and manpower - our core competencies. India must get rid of the inferiority complex and defeat the defeatist spirit that plagues us.

Indians must celebrate their success and encourage the talented to work for missions which will bring glory to India. Then Prime Minister of India during his address on the eve of Independence Day 2002 declared that India will become a Developed Nation by 2020. The tenth five-year plan also focuses on an economic growth of 8% and an employment potential of one hundred million.

In recent years, technology has come to play a dominant role in improving the quality of life. Technology is the engine capable of driving a nation towards growth and prosperity, and giving it the necessary competitive edge in the comity of nations. Technology, thus, has an important role to play transforming India into a developed country.

When Indians were developing rockets, launch vehicles, missile systems and related technologies in India, the developed world denied technology to India, for many reasons. This resulted in challenging the young minds into action. Technology denied is technology gained. Today, India has core competence in system design, system engineering, system integration and system management of launch vehicles, missiles and aircraft, and capabilities for developing critical technologies. This book brings out these aspects in an integrated manner through two important case studies on the design of a launch vehicle and a guided missile. Aim is to convey that just like science; Indians have to make technology a universal system, decoupling geo-political policies. These case studies pertain to Kalam's experiences of working at ISRO and DRDO, and with great technology visionaries- Dr. Vikram Sarabhai and Prof. Satish Dhawan.

India has many successful experience of managing mission mode programmes. Indians should recognize the importance of technology and the role that it can play while formulating policies and implementing programmes in mission mode. The requirement today is the creation of a suitable environment in tune with the times, and India's transformation into a knowledge society. For harnessing the potential of the youth and the resources, creative leadership is essential. Networking of thoughts and deeds of one billion people towards a common goal of making India a developed nation is indeed the need of the hour.

You are Born to Blossom

Dr. Kalam a scientist- philosopher came to be known as a protagonist of societal transformation through scientific development and innovation. Before taking over as the eleventh President of India in 2002, Dr. Kalam worked at ISRO and DRDO and as Principal Scientific Advisor to the Government of India. In 1995, Dr. Kalam articulated the vision of India becoming a developed country by 2020.

‘You Are Born to Blossom’ is an attempt to induce young minds to realize that tremendous resources and support systems exist in the field of education. In this book he explores a flavoures of the variety of the themes. Taking education, learning and teaching as the backdrop to his reflection, human life-cycle, relationships within families, the significance of work, attributes of leadership, the nature of science, spirituality and moral themes.

This book opens up so many topics for reflection, poses so many practical challenges and asks so many profound questions that each reader will being his/her unique intellectual journey. This book recalls many of the steps in Dr. Kalam’s own emotional, moral and intellectual development. This book about scientist and philosopher, Dr. A P J Abdul Kalam’s vision of a new India enumerates the most vital facets of education and their contributions in building a better workforce for societal prosperity and development. Co-authored with engineer, scientist and erstwhile pupil, penned down with much hopes of creating awareness about the strengths of knowledge, the book promises to refurbish the missing link in the modus operandi of the Idealists and the Global in achieving their goals. The speedy and substantial progress of the Information and Communication Technology (ICT) and the wide possibilities at its disposal have been highlighted as the key factor for this specific purpose. The book has aptly been structured under eight chapters, each one depicting the sequential paths to human fulfillment, with the finale resting on education as a spiritual journey.

Dr. Kalam visualizes information and Communication Technology mining the rural talent. Here, Dr. Kalam present his dream Of schools in India at 2020 as symbiotic nerve centre’s connecting teachers, students and community; personifying knowledge that exists in the world. He also makes a clarion call to accelerate the

process of societal transformation. This would involve raising the standards of governance and safeguarding the sanctity of public institutions. The book uses the metaphor of a tree to describe the process of knowledge bearing fruits of prosperity in the contemporary globalised world where different phases, formative, adult working life, and post-50 experienced senior citizens, call for different kinds of learning. The book refers to a contextual contribution of a large number of Indian scientists and artists and proves that there is no age bar to blossom. He advocates creation of conditions that favour growth of diverse individual talents akin To agarden and calls for a scientific mind-set guided by conscience, consensus and by actions that take our social and moral values into account in building our own systems.

This book is an attempt to induce young minds to realize that tremendous resources and supports systems exist in the field of education. These system, however, are unseen if untried. The book contains many contains many 'little' ideas he found fascinating during his interaction with about a million school children over the last five years but are rarely included in conventional academics, despite being indispensable.

According to Professor Arun K. Tiwari, the book delves into the vivid life events of Dr. Kalam, which have taken him through varied corners of the country. The former President of India, who is known for his valuable insights on social progress, has met thousands of school students on various occasions over the last five years, and recognized a prime necessity for the perfect fusion of quality education and proper guidance.

The book encompasses the different stages of human life to emphasize on the common goal of unearthing the tremendous resources and support systems implicit in the field of education. It mentions about the school days of Dr. Kalam and his friend Kota Harinarayana (former chief of India's Light Combat Aircraft Development Programme) when vision and inspiration were the only tools to keep the fire of aspiration burning in a not-so advanced educational system.

The book serves its purpose well in inspiring young minds to open their doors of creative perception and pour out their latent skills when they are most needed for national growth. While education is the most powerful instrument in building a stable

and mature society, every reader will realize how best to utilise the available resources in fulfilling his/her responsibility.

India 2020 – A Vision for the New Millennium

The Book is dedicated to a ten-year-old girl who came up to him for his autograph. ‘What is your ambition?’ he asked her. "I want to live in a developed India", she replied without hesitation. This book is dedicated to her and millions of Indians who share her aspiration.

According to Dr.A P J Abdul Kalam,

"A developed India by 2020, or even earlier, is not a dream. It need not be a mere vision in the minds of many Indians. It is a mission we can all take up - and succeed."

Vision for Developed India

In India 2020 Dr. Kalam writes that “Transforming the nation into a developed country, five areas in combination has been identified based on India's core competence, natural resources and talented manpower for integrated action to double the growth rate of GDP and realize the Vision of Developed India.

Agriculture and food processing -- with a target of doubling the present production of food and agricultural products by 2020. Agro food processing industry would lead to the prosperity of rural people, food security and speed up the economic growth.

Infrastructure with reliable and quality electric power including solar farming for all parts of the country, providing urban amenities in rural areas and interlinking of rivers.

Education and Healthcare: To provide social security and eradication of illiteracy and health for all.

Information and Communication Technology: This is one of our core competencies and wealth generator. ICT can be used for tele-education, tele-medicine and e-governance to promote education in remote areas, healthcare and also transparency in the administration.

Critical technologies and strategic industries witnessed the growth in nuclear technology, space technology and defence technology.^[1]

Dr. Kalam's vision for Common People

It was the vision of the great Vikram Sarabhai, supported by Nehru and Homi Bhabha, which gave us the opportunity to work on the space programme. The programme was aimed at carrying developmental messages into homes all over the country, especially in the 6 lakh villages, by leap-forging many traditional routes. The programme also aimed at surveying the natural resources of the country so that they could be harnessed to benefit our people. Many in India must have considered these objectives an unattainable dream in the early '60s when the space programme was born. They, however, along with many of their colleagues, saw these aims as a vision real and attainable. What followed was a shared mission. Every person in ISRO believed that they were born to realize all that space technology can bring to the country and its people.

Kalam's Vision for Technology

Kalam has a very clear idea for technology and in this book he says, "There were days and nights of work. Many failures and a few hard-won successes. The systems which were designed, developed, fabricated and tested were directed towards a common goal-a strong India, a developed and proud India with the benefits available all over the country. It is gratifying to note the vision, in relation to space technology, has come true now especially in terms of reaching out to the people; providing communication through networks in remote areas; disaster warning systems; quick resource surveys to target ground water, save our forest cover and so on. And, of course, in areas of certain strategic strengths, vital to India in a world which respects only strength.

The authors were fortunate to have been associated with a large number of persons who were interested in posing these questions and finding some answers. These came substantially through a novel organization, the Technology Information, Forecasting and Assessment Council (TIFAC), which launched a

major exercise called Technology Vision for India up to 2020.

Dr.Kalam's Vision for Science and Agriculture

Kalam also feel proud and happy that the dreams of many Indians in the agricultural, scientific, artistic, cultural and social fields have also come true. However, the vision of a prosperous India without poverty, an India strong in trade and commerce, an India strong in many fields of science and technology, an India with innovative industry and with health and education for all, has remained just partially realized. In some areas, in fact, pessimism has taken deep roots.

Dr.Kalam's Vision for Independence

India has completed the fiftieth year of our independence, with a large majority born after independence. Every year about twenty million Indians are being added to the nation. What vision can they have? Should they, like some, question the very concept of development and leave our people to the same condition of stagnation which existed for centuries? Or think only of the upper strata of society and leave the rest to their fate, employing such nice sounding phrases as 'market driven strategies' and 'competitiveness'? Or leave the initiative to various globalizing forces? Where should they see India (and its people) going in the next two decades? In the next five decades? And more?

Indians are aware of the systems of governance and social and political compulsions. They are fortunate to have gained experience in implementing projects involving people of various strata as beneficiaries, as well as projects entailing strong commercial pressures and those that are high profile, such as a satellite or a launch vehicle or missile project. The execution of these schemes provided varied experiences, which worked as base line knowledge for the shaping of this book.

Having taken these factors into account and after studying several vision reports of India and other countries, we still believe firmly that India can reach a developed country status by 2020. The Indian people can rise well above the present poverty and contribute more productively to their country because of their

own improved health, education and self-esteem. India can have considerable technological strengths, so crucial for its strategic strengths and for economic and trade related strengths.

In this book they have attempted to share some of these thoughts. They have also disclosed elements of a few action plans, which can be missions for many young people in the country. They hope that these will help to stimulate young Indians and ignite their minds in the same way that we were ignited by the space programme three decades ago. Their vision ahead for the country and the missions they see before them make them feel young even now.

A developed India, by 2020 or even earlier is not a dream. It need not even be a mere aspiration in the minds of many Indians. It is a mission we can all take up and accomplish. Ignited young minds, they feel, are a powerful resource. This resource is mightier than any resource on the earth, in the sky and under the sea. They must all work together to transform our 'developing India' into a 'developed India', and the revolution required for this effort must start in their minds. This book, India 2020, will hopefully be the source for igniting many minds.

Wings of Fire

“We are all born with a divine fire in us. Our efforts should be to give wings to this fire.”

The book narrates the journey of A P J Abdul Kalam – as a child born in the island-town of Rameswaram in a typical middle class Muslim family, his struggle to become an engineer, his dream of building in-house missile, the triumph followed the failure – all that went into the making of a neighbourhood.

A P J Abdul Kalam’s autobiography depicts an extraordinary life: a child born into a little-educated family of boat-owner in Rameswaram- a small pilgrim in Tamil Nadu. Kalam grew up to lead India’s space research and missile development programme, and emerged as one of the most important scientist-leader of our time.

“The unexamined life is not worth living,” said Socrates more than two millennia ago. All civilizations are technological, originating from basic discoveries and determined applications of fire, agriculture, the wheel, irrigation, knowledge of materials and metals, etc. A defining feature of post-renaissance technological development was the organized marriage of science and technology, each feeding on the other in a synergistic way. This is where the non-Western nations, India being a typical example, got rapidly left behind.

Kalam very vividly recalls a piece of sculpture he saw at the NASA Langley Research Center where his initiation into Rocket Engineering began-“a charioteer driving two horses, one representing scientific research and the other technological development, metaphorically encapsulating the interconnecting between research and development.” Elsewhere, he writes with great insight- “Gradually, I became aware of the difference between science and technology, between research and development. Science is inherently open-ended and explanatory. Development is a closed loop. ...Science is a passion – a never ending voyage into promises and possibilities.

2.4 The Contributions of Great Persons in the Field of Education

All great persons have some vision about education. Here some of these are presented;

Adya Jagadguru Shankaracharya’s Views about Education

Adya Jagadguru Shankaracharya (world-teacher), founder of four Peeths (Centres of Education), a Nambudari Brahman and a great author, was born in a small village Kalati, in Kerala in 788 A.D. in the family of Shivaguru and Sati, according to various literary evidence. He summarized the knowledge of Vedas, Upanishad, Vedanta, Gita and other scriptures, all the isms of philosophy and his own experiences and scattered this amalgamation of knowledge in an aphoristic and logical way to resurge the human being.

According to Shankaracharya education and true knowledge are interdependent. Education should be religious and spiritual. He maintained that education is a continuous and non-stop process of achieving deliverance of soul. He held that education should be not only for attaining material progression but also for realizing the essential union between God and soul. He conceptualized that education is to revive the inherent consciousness of God within the individual. He explained correlation between education and life and stated that education and life are interdependent. Life is not for material pleasure but for obtaining real education.

Marshall McLuhan's Views about Education

Marshall McLuhan (1911-1980) was an ardent advocate of the use of electronic media in the teaching-learning process. He conceptualized that the media should not be allowed to become the master. Marshall McLuhan favours liberal education and said that liberal education is of utmost necessity in the present age. Such education would enable the students to participate in society in an imaginative way. He was not satisfied with the present system of education and suggested an overhaul of the education-system. He held that an education-system in which there is an in-depth approach to learning, a revolution in attitudes between the teacher and students, and recognition of the sensibilities in what is urgently needed.

He trusted that that learning is a process of play and pleasure and this process should be ideal, interesting and touching. According to him learning should become an exploration and discovery. Learning should not be limited to gathering of some information.

Dr. Zakir Hussain's Views about Education

Dr. Zakir Hussain provided a new life to Indian system of education. He got his schooling at the Islamia High School, Etawah, college education at the Mohamedan Anglo Oriental College, Aligarh (now A U M), and PhD (economics) from the University of Berlin in 1922.

Dr. Zakir Hussain's educational philosophy is revealed through his lectures, speeches, convocation speeches, radio-talks, reports, letters, articles and various books, specially – 'Shiksha'. He maintained that education is a prime instrument of national

purpose. He wanted a reconstruction and reorientation of education to meet social and political aspiration. He emphasized on social and spiritual aims of education. Dr. Zakir Hussain believed that the western system of education was narrow and limited and in its objectives, thin and anemic in content and not appropriate in the context of our national life. His educational doctrines reflect a sweet coordination between individual and society, science and technology, achievement and conviction, traditional and modern, eastern and western philosophical standpoints. He stated that education should be according to the needs and values of the country. Education must cultivate and nourish values of sacrifice, devotion, kindness, humanity, service to mankind and co-operation.

Dr. B.R.Ambedkar's Views about Education

Dr. Bhim Rao Ambedkar was born on 14 April 1891. He was awarded India's greatest award - 'Bharat Ratna' in 1990. He was a brilliant scholar, eminent educationist, great author, patriot, architect of secularism, maker of Indian constitution, a man of letters, and founder of many educational institutions and educational societies. He had himself experienced humiliation and insult because of being a member of family of untouchables (Harijans). His family followed the preaching of Kabir, and Ambedkar was highly influenced by the philosophy of Kabir.

He was a practical educationist and theoretician. He put his doctrines in practice, experimenting and experiencing them. He conceptualized that life without education is great loss. He believed that progress follows education. He was an innovator and recommended modernization of education. He stated that modernization in education is a must. He assumed education to be an instrument for character building and social change. He pleaded for qualitative and quantitative expansion of education. He supposed that if education is expanded and most of the people of the country were educated; they would become progressive.

Dr. Sir Mohammad Iqbal's Views about Education

Dr. Sir Mohammad Iqbal, Shair-e-Mashriq ('The Poet of the East'), Hakeem-ul-Ummat ('the Sage of Ummah'), practical educationist, well-known poet, great philosopher, dexterous statesman, true-revolutionist, prominent patriot, great humanist, and spiritualist was born in 1873 in Sialkot.

He opposed the inactive and unquestioning education which meekly accepts ‘What is’ and does not strive for ‘what-might be’. He maintained that the supreme purpose of nature and consequently of education is development of every person’s individuality. He would like to see the education of youth so patterned that they will be well –versed in their own way of life, and the finest of their culture values. In a nutshell, main aims of education, according to his educational philosophy, are as under:

- To develop students’ individuality or selfhood and self-esteem
- To rejuvenate inventive tendencies in the students
- To ensure multifaceted and utmost development of the students
- To develop basic traits and attributes of mind and character
- To guide the students to their maximum manifestations
- To direct the students to realizing and fostering creative spirit
- To develop behavior and adjustment capacity in the students
- To develop aptitude, bravery, broadmindedness and objectivity in the study

Rajiv Gandhi’s Views about Education

The originated of the National Policy on education – 1986, founder of the Jawahar Navodaya Vidyalayas, the driving force behind Information Technology in India, airline pilot, educationist, philosopher, Bharat Ratna award winner the youngest prime minister of India, Rajiv Gandhi’s contribution to the field of education will be remembered for a long time.

Rajiv Gandhi considered education more than just reading biotechnology or specializing in particular spheres. He thought the primary goal of our education should be the development of human being. He said “Education makes us free.” The world of knowledge and intellect is where all can meet and converse. Education liberates people from prejudices. It frees the human heart from violent passions. It is through education that we are liberated from powerlessness, and from the burden of mistrust directed against ourselves. What our world requires now is the kinds of educations that fosters love for human kind, develop character, provides an intellectual basis for the realization of peace and empowers learners to contribute to and improve society. He summarized the main aims of education as:

- To create the feelings of international fraternity.
- To end communalism.
- To inculcate the feeling of patriotism.
- To develop the economic power of nation.
- To end corruption from all spheres of society.
- To produce the sense of dignity of labour.
- To make the country a superpower in information technology.
- To prepare independent and efficient youths.

Indira Gandhi's Views about Education

Indira Gandhi was one of the India's most noteworthy political leaders. Born on November 19, 1917, in Allahabad, she was the only child of Jawahar Nehru, the first prime minister of India and Kamla Nehru. She grew up as a grave, gifted child whose games were related to the fight against Britain. She got her education from Visva-Bharti University, Bengal and from the University of Oxford, England. In 1938 she joined the National Congress party and became active in India's independence movement. After the sudden death of Lal Bahadur Shastri in January 1966, she became the Prime Minister of India.

Indira Gandhi believed that education is development and refinement of various skills in the students but it does not mean only refining manual, vocational and intellectual skills. Essentially, it is a process of deepening the spirit. Like *Swami Dayanand*, *Swami Sivananad*, *R.N.Tagore* and former president of India *Dr. A.P.J.Abdul Kalam*, she emphasized on spiritual uplift of students through education. She believed that education must develop in the students the capacity to face the challenges of the forthcoming life. She maintained that education is not merely the collection of information but the discipline of mind that makes for a balanced, well-adjusted person who is capable of meeting the changing challenges of life. She stated, ***“Education is not an easy way towards employment but a training to make better men and women.”*** She summarized the main aims of education as:

- To expand the capacity of the students to face the changing challenges of life,
- To develop and to refine manual, vocational and intellectual skills of the students,

- To ensure national integration and development,
- To build up character and morality,
- To ensure spiritual uplift,
- To develop students physically,
- To develop integrated personality of the students.

This chapter will be followed by the next chapter of Review of Related Literature.

Chapter: 3

Review of Related literature

3.1 Introduction

“The review of relevant literature is nearly always a standard chapter of a thesis or dissertation. The review forms an important chapter in a thesis where its purpose is to provide the background to and justification for the research undertaken”.

– Bruce (1994)

The most and important steps in a research is the conducting review of related literature. The Review of Related Literature is known as the standard chapter of the dissertation. This chapter provides the highlights of related references, background and justification for the research which were undertaken the past researcher. The researcher has selected a particular topics for her research but to know more about her selected topic and how past researcher has been done, what are their objectives, which method they followed etc. These reviews are may be from at M.Ed and Ph.D level. Therefore the researcher refers literatures like research journals, abstracts etc. When the researcher refers related literature the researcher gets the correction or guideline for the study. This review helps the researcher to proceed ahead in her study.

“A crucial element of all research degrees is the review of relevant literature. So important is this chapter that its omission represents a void or absence of a major element in research”. (Afolabi 1992)

Objectives of Reviewing the Related Studies

- to identify gaps in the literature
- to know about the past researches and to built up the knowledge about the present study
- to identify other people working in the same fields
- to increase the brief knowledge about the subject area

- to review the related literature for having theoretical and research based knowledge for the present study

3.2 Review of Classical Books

Divekar S.M. (1960) studied “*A Critical study of the Educational Philosophy of Upnishadas*”. Upnishadas with a view to search for solution of the radically wrong in the fundamentals of existing education in India. Analysis of the philosophy of Upnishadas with respect to knowledge aims and objectives of life and education, ethical and psychological bases of education, methods of teaching and learning, teacher-pupil relationship, curriculum and rebirth and its educational significance and so on. The Upnishada teachers built their educational edifice on the sound foundation of the highest concept of knowledge about ‘man’ and his surroundings. If education is a process through which it is aimed at the development of inner consciousness of man. So as to lead man ultimate to divine light. The curriculum consisted of ‘Para’ and ‘Apara Vidyas’ might satisfy the material need of man. According to the Upnishadas, the teacher or the Guru should be a man of character, integrity and developed personality so as to naturally become an idol and ideal for the pupils. The important features of educational philosophy in the Upnishadas might be in corporate in modern educational system in India. Some of these suggestions were: (1) Analysis of Shreyas and prayas is useful to frame clear objectives, (2) Curriculum for character has to be built upon Para and Apara Vidyas and (3) establishment of Ashramic school and university would bring forth better teaching and learning.

Charlu M.K (1971) Studied “*The Educational Philosophy of Bhagavata Geeta.*”

It was a study of educational implications of the philosophical aspects of Gita with a view to forming a basis for the reconstruction of a sound education system. It was hypothesized that (1) The Bhagavata Gita contains many ideas which could become the basis for a sound educational philosophy; (2) the educational philosophy of the Bhagavata Gita is quite significant for various aspect of educational system in India. The methodology of research was library research, and the sources examined were the Bhagavata Gita with Bhashyas by Sankaracharya and Ramanujacharya, other

commentaries on the Bhagavata Gita by various scholars, books on eastern and western philosophy along with research literature on the problem.

In the light of the study, deduction are made regarding meaning and aims of education, educative process, teacher-pupil relation and curriculum and evaluation education is found to mean the complete development of man through the four successive stages of life and the preparation for life. It connects an exercise of hand and heart with a view to developing a synthesis of matter and spirit. The educative process is a harmonious development of physique, intellect, social efficiency and character. Education according to the Bhagavata Gita consists in the co operation of both the teacher and the pupils in order to gain the knowledge of supreme. It involves practicing this knowledge in everyday life for the spiritual uplift of the self and the good of the society. The quality of the teacher and taught, not the time, place and material instrument, are the basic constitutions of teacher-pupils relationship. Shri Krishna was the ideal teacher and Arjuna the ideal pupil. The curriculum presented in Bhagavata Gita contains the entire life and its problems as one subject. The Bhagavata Gita holds the thesis that knowledge and selfless actions are the instruments to serve God. True education is evaluated by the actions of the learner, not by his knowledge alone.

Venkateswarlu M.(1978) studied “ *Educational Philosophy as Reflected in the Mahabahrata*” The objectives of the study were: the hierarchical system of body-mind-intellect-heart-will-ego-spirit. The effective and cognitive domains, the inter relationship among ethology, axiology and ontology, the concept of sacrifice creativity, equity, equality, free-will and pre-destination and epistemology as a part of the educational philosophy that the Mahabahrata reflects.

The method of the study included a creative endeavour to outline the social and the political system at the time of the Mahabahrata, a psychological exploratory endeavour to understand the various characters and their interpersonal relationship and a critical examination of some of the salient situation and significant incident so as to highlight the right human conduct of students and the rights conducted of the government according to the Mahabahrata.

The major findings of the study were: the conviction of the existence of the self same reality in all created being was conducive to self-confidence, appreciation and humility which were basic to the right conduct which alone could bring about national

integration. The course of bramacharya released tremendous will power. This was nothing that a well directed human wills could not achieve. The cultivation of virtue and a proper code of conduct were more important than the achievement of skills or advancement in the cognitive domain. Sacrifice as a means of creation was a law of nature and also a law of God. The qualities of Lord Krishna as the ideal educator and project master have been delineated. The qualities of good students have been delineated. The educational philosophy that was in consonance with the Sankhya philosophy of the life was most suited to India as her national educational philosophy. Varna was not by genes, it was by the qualities of the head, the heart and conduct. The division of laboures was for efficiency. Ashramas were an institution in appreciation of the principle of gradualness of human evaluation. The discipline of food and dress were essential for educators and the educed. The intellect that had undergone sublimation the Vedas the functional Brahmin and the love of God were the effective source of knowledge. The main methods of instruction at the time of the Mahabahrata were parables lively conversation, practical demonstration and pupil involvement in project.

Dubey, M (1980) studied “*Educational Philosophy in the Upanishad*”

The objectives of the study were: to study the educational philosophy of the Upanishad, to review the changes in the educational philosophy since the Upanisadic age, to search for the solutions of educational problems in the light of the educational philosophy of the Upanishadic age, to evaluate the modern educational philosophy and suggest changes and reforms as indicated by Upnisadic education, to compare the present day westernized Indian educational philosophy with the Upanisadic philosophy and determine the nature of education that our country needs. The study developed the historical cum critical method. The data were collected through extensive library work.

The Upanisadic philosophy of education aimed at arousing the spiritual vision of human beings for living an active worldly life but all for attaining salvation. Education was open for all castes, creeds and women irrespective of their socio-economic status. The entire educational system was residential. The students had to reside with the teacher in gurukula as members of his family. Education was free at all stages. The curriculum mainly consisted of two parts, Para Vidya subjects related to spiritual development and salvation and Aparā Vidya subjects like the Vedas, the

Puranas grammar social customs, mathematics, production, ethics, logic, geography, military science, astronomy, music, aesthetics, architecture, science. The teacher-pupil relationship was extremely cordial and the teacher behaved like a father. The methodology of teaching was Shravana(hearing) contemplation, discussion, question-answer formulation, debate inductive and deductive , logic, explaining, illustrating with examples, experimentation and learning by doing. The practice of acquired knowledge was immensely emphasized.

Jani (1985) studied “*The Educational Values in Panchatanra.*”

The objectives of her research were: (i) to study the concept and types of values, (ii) to analyse the values narrated in Panchatanra. The researcher followed the historical and descriptive method. As the sample, he used one standardized copy of Panchatanra which narrates the educational values. The researcher concluded that the educational values are primary values where as the social values are secondary. The economic, religion and political values are less emphasized. The educational values explain the human of that society and approaches of his existence.

Garasiya (1988) has studied “*The Educational Ideas as depicted in the Upanishada*”

The main objectives of the study were: to study the educational ideas and to give educational implications; and to interpret some educational situations. The sample of the study was 11 Upanishadas out of 108 Upanishadas. The researcher followed the survey method. The researcher concluded that the goal of human life and education is self-realization so human should abandon the likable things and accept the goal to reach the divine. Every human being should aim to be free from the turns of life and death. The researcher emphasizes mainly on self-realization and self-knowledge which are the very essence of human life.

Kundu, C.L., (1988) made “*A Comparative study of Educational Philosophy in Gita and Quran*” It aimed at highlighting the practicability of educational ideas of these scriptures in present day India. The researcher has studied translation of the originals and has tried to collect commentaries on them by philosophers, educational leaders and educationist. Some of the specialist in the area were interviewed by the researcher and while formulating the result of the study. The main findings of the study were: according to Gita the living human beings are a part of Brahma through moksha.

Moksha can be achieved through good deeds; i.e. nishkam karma. According to the Quran, living beings are created by God and when living being dies his soul has to wait till the day of judgement and then, according to balance of his good or bad deeds he is sent to Jahat (heaven) or Dozakh (hell). According to Gita, education should lead to all round development and curriculum should have a wide variety of subjects to achieve this aim. In the Gita stress is laid that the individuality of the child should not be suppressed. In the Quran also important of the teacher is emphasized but stress is also laid on the development of the talent of the child. In the Quran stress is laid both on the study of religious and subject which can be of use in life.

Rathod Harishchandra, S (2001-02) studied “*A study of The Bhagavata Gita and its Implication to Teacher*”

The objectives of the study were: to identify the school in The Bhagavata Gita related to teacher, to study the implication to identified slokas in present days. The researcher followed the method of content analysis. The major findings of the study were: Adveshta is an important quality for a teacher. The teacher should no hatred towards students. A teacher should be friendly towards his disciplines. Teacher should be a friend to everybody in the classroom irrespective of the differences among students. A teacher should be merciful also. He should not be rigid and understand the individual's difference among students. A teacher should be free from the sense of possession. A teacher should be aware about the fact that sorrow and happiness are the part of life. He should be away from the blows of sorrow and pleasure. A teacher is forgiveness towards the students. A teacher should be satisfied himself. Satisfaction is an important quality of a teacher. A teacher should have a firm conviction. His conviction should be firm in terms of teaching learning process. He should be strong determined person in terms of his way of living, way of working and way of thinking in his life. Charity is a quality of a teacher, which implies withdrawal of mind and sense organs from their sense objects and constantly trying to the fix the attentions on the goal. A teacher should have the quality of fearlessness. Truthfulness is an important quality of a teacher. Humiliation is an important quality of a teacher. It connotes fear in doing things against the moral code of conduct or against spiritual injunction.

Panda (2004) studied “*The Educational Philosophy of Epic Poem the Mahabharata*”

The context of study has been well introduced through an emerging need of revival of Gurukul system or educational need of implicating the ideas of ideas of the Mahabharata. In our educating system, realizing meaning of education, meaning of philosophy, Mahabharata as a social and political philosophy dealing with dharma, artha, kama and moksha, transcendental knowledge of wisdom, rising to the reality, victory of good over evil, humanism, illusive material existence, uniqueness of knowledge on earth, self realization, quest of salvation, relevance of Dharma and God gift profess. The investigator has adopted philosophical cum historical method for the study. The various learning resources utilized for the study are quite relevant and appealing. The investigator has very well studied Maharshi Vyasa meaning and importance of the Mahabharata, comprehensive scenario of the Mahabharata aims of education in the context of Mahabharata real reality of the cosmos, the curriculum, pedagogy education as knowledge, self realization by meditation and teacher. The savior findings: for a self realized soul, the entire cosmos is a manifestation of God; there is nothing more purifying on this earth than knowledge, mundane man should go through Bhagavat Gita to liberate the set of Maya and one should adopt the path of Dharama.

Padhiyar Tejal (2011) studied “*Education Implications based on selected chapters of Ramcharitmanas.*” Her objectives of the study were: (i) to study Ramcharitmanas, (ii) to know about the values presented in Ramcharitmanas (iii)to know about the value of human relation (iv)to know about the life skills presented in Ramcharitmanas (v) to know about the importance of nature for human beings. The major findings of her study were: (a) Chaupaies of Ramcharitmanas are full of moral values. There are values like respect for elders, devotion to God, discipline, love, aesthetic sense, modesty etc; (b) Ramcharitmanas presents values but it is also full of poetical suggestion about leading life. It gives us suggestion about problem solving; decision making etc (c) Ramcharitmanas presents ideal characters in all fields. Goswami Tulsidas has skillfully shown how people should behave in different circumstances. Thus characters of Ramcharitmanas are indeed role model for people as he shows how an ideal son, husband and king and brother should behave in different circumstances as Rama is an ideal king, husband and brother.

3.3 Review based on Paper Presentation

Mishra, Y. (2009) has presented a paper on “*Ethics, Indian Values and HRM aspects of RAMCHARIT MANAS (Sunderkand as a case study)*” The paper concluded that the Ramcharitmans is an ideal epic that gives us a path to survive in the world with our self confidence and high moral values, and we certainly manage all the organizational activities according to their available principles. The HRM policies, strategies and talent hunting and utilization of the resources is used and adopted in Ramcharitmans with high standard.

Pankaj, A. (2010) has presented paper on “*A Poetical Philosophy of Ramcharitmans*” The paper focused on the tree of the universe endowed with the unending and manifold miseries of birth, old age, death and grief, it changes its nature every moment like magic, a mirage, or a castle in the air the universe is perceived, only to vanish ultimately, It is non eternal like tree. The ultimate root of the universe is the supreme BRAHAMAN ASCERTAINED.

3.4 Review of Indian Books

Upadhyaya(1987) studied “*The Ideas of Education as depicted in the Literature of Kaka Kalelkar*” The objectives of his study were: to study the ideas of Kaka Kalelkar keeping in mind the present condition of education; to study his thoughts about the role of a teacher and his duty, the objectives of education, curriculum, teaching methods and examination system. The researcher followed historical and descriptive case study. The researcher concluded that in education, ‘man’ is the major subject of all. All the other logics, arts, history, science, sociology and theology are for ‘man’. Education should aim at social, intellectual, cultural and democratic development of students. The researcher indicates many useful directions to the present condition of education.

Patel Ashvina B (2003) studied “*The Ideas of Education in the Novel Totto-Chan*” The objectives of the study were : to study the educational practices of the principal

depicted in the novel, to study the education achieved through the outer experience; and to suggest new educational plan. The researcher followed the method of content analysis and descriptive method. As the sample of the study, she studied the Gujarati version of the Japanese novel “Totto-Chan”. The researcher found that the primary education is necessary for the balanced development of a child’s future. The children should be provided an environment of new experiences which make them active. The authentic direct and informal knowledge indicate the true nature of primary education.

3.5 Review of English Novels

Malankar(1986) studied “*The Educational Ideas depicted in the Literature of Father Wallace*” The objectives of his studies were: to study the concept of education according to Father Wallace, to study his ideas about the role and duty of a teacher and about education system. As the sample, the researcher took the literature of Father Wallace. The researcher concluded that education should be life-oriented and the knowledge should be used in new situations. His ideas emphasis on teaching by mother tongue, reading, curriculum in easy language, self discipline, self-experience and all round development. The researcher involves all the aspects of life such as educational, social and religious. The whole study provides directions to the teachers, students and youth.

Parmar. Vimal.S, (2008) studied “*Education Concern as depicted in Selected English Novels of Paulo Coelho.*” The objectives of her studies were : to analyse the education concern in the novels under study with a view to ascertaining philosophical and psychological insights, to drive educational implications from the RAM exercise suggested in Paulo Coelho’s novels, to study Paulo Coelho’s idea on intuition, love and fear, to define the metaphysics, epistemology and axiology as professed by Paulo Coelho, to define educational philosophy of Paulo Coelho, to suggest an educational plan based on the insight derived from the study and to find out the relevance and strength of ideas derived from Paulo Coelho’s novels in educational contexts.

The researcher followed the method of content analysis for her research. The major findings of her research were: (1) Realization of dream is the task of man. Education is all about learning this. (2) Arousing one’s power of intuition is the first step to

achieve of one's dream. (3) Education operates through making students understand the mystery of universe, because it helps in the journey of life (4)reflective attitude is a way of understanding the mystery (5)development of a person takes place through the language of love (6) heart follows the treasure or goal so education is for learning how to follow the heart (7) participation is one's destiny plays a significant role in others lives (8)education works for the unification of all in one's soul (9) education also means knowing the best road to follow (10) fear is a hurdle in the journey of life which has to be overcome (11) belief in God or in other things of the world has to be tested before accepting it as faith and (12) while pursuing the destiny of dream a person must also enjoy the beauty of the world around. A union of the unseen and the seen make life complete.

3.6 Review based on Individual Thinkers

Sharma, I.(1992) conducted a study on “*A Critical Evalution of J. Krishnamurty's Thought on Education*” The objectives were: to state and analyze, J. Krishnamurty's general philosophy, to state and analyse J. Krishnamurty's thought on education and to trace the, uniqueness in the education thoughts of J. Krishnamurty. The findings of the study were: J. Krishnamurty has denied the existence of permanent soul and hold the view that the ultimate reality is homeless immensity, akin to energy discovered by science. His views about religion and God are unsecularly secular. The school should be a home for the student where he can flower in the environment of fear, competition, comparison, ambition and reward. It should not create jealousy envy hatred and wars in the long run.

Patel, D (2004) studied “*The Education Implications as reflected in the works of Saint Kabir.*” The objectives of the studies were: to study the educational implications in his works in relation to nature of the world, of reality to nature of the world, of the reality and self theory of action and art of living, goal in human life, value education and the importance of Guru and Sadhanas. She found that the world is transitory, painful and full of sorrow. The way to gain happiness is to surrender oneself at the mercy of God. The purpose of human life is to serve the mankind because service to man is service to God. Moreover, the values like humbleness, kindness, sympathy etc.

are needed to be enriched in ourselves. On the other hand jealousy, fear, hatred, selfishness etc. are to be abandoned.

This chapter will be followed by the next chapter on Research Methodology.

Chapter: 4

Research Methodology

4.1 Introduction

“Research is a diligent and systematic inquiry or investigation into a subject in order to discover or revise facts, theories, applications etc. Methodology is the system of methods followed by particular discipline. Thus, research methodology is the way how to conduct our research.”

This chapter gives a detailed description of the procedure has been adopted by the researcher for the present study. As the present study is the based on philosophical research, it is differ from others research.

4.2 Nature of the study

It is a philosophical research because the researcher tries to know the educational implications of the selected books authored by Dr. Kalam.

4.3 Research Methodology

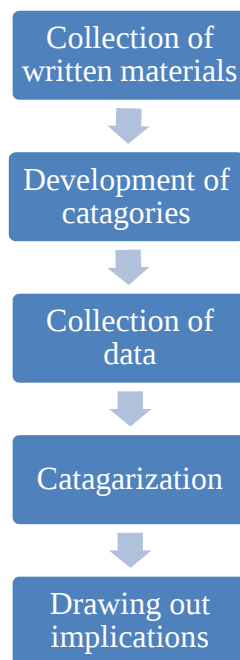
As the data for the present study are qualitative in nature the entire study was carried out through content analysis method.

4.3.1 Content Analysis

“Content Analysis is a research technique for making inferences by systematically and objectively specified characters or characteristics within a text”.

Content analysis is a research tool focused on the actual content and internal features of media. It is used to determine the presence of certain words, concepts, themes, phrases, characters, or sentences within texts or sets of texts and to quantify this presence in an objective manner. Texts can be defined broadly as books, book chapters, essays, interviews, discussions, newspaper headlines and articles, historical documents, speeches, conversations, advertising, theater, informal conversation, or really any occurrence of communicative language. To conduct a content analysis on a

text, the text is coded or broken down, into manageable categories on a variety of levels--word, word sense, phrase, sentence, or theme--and then examined using one of content analysis' basic methods: conceptual analysis or relational analysis. The results are then used to make inferences about the messages within the text(s), the writer(s), the audience, and even the culture and time of which these are a part. For example, Content Analysis can indicate pertinent features such as comprehensiveness of coverage or the intentions, biases, prejudices, and oversights of authors, publishers, as well as all other persons responsible for the content of materials. The steps of the content analysis are:



4.5 Steps for the Research:

The steps for the present study are as under:

Step: 1 The researcher first found out that Dr. Kalam Has written many books but because of the time-constrain the researcher selected only three books authored by Dr. Kalam for the present study.

Step: 2 The researcher read the selected books for her study. And those books are Wings of Fire, You Are Born To Blossom and India 2020 – A Vision for the New Millennium.

Step: 3 The researcher re-read the books and found out some important points emphasized by the author. These points are:

- Dr. Kalam's views about his Teachers
- Dr. Kalam's high views about teaching profession
- Dr. Kalam's views on leadership quality
- Dr. Kalam's views on education
- Dr. Kalam's views on science and technology
- Dr. Kalam's vision for Indian
- Dr. Kalam's vision for technology
- Dr. Kalam's belief in spiritualism
- Dr. Kalam's belief in secularism
- Dr. Kalam's journey: A journey from Rameshwaram to Rashtrapati Bahvan

Steps: 4 The researcher read the books and categorized the content according to the given/ selected points.

Steps: 5 The researcher tried to draw Educational Implications of the selected books authored by Dr. Abdul Kalam and suggested implications for the future research.

This chapter will be followed by the next chapter of Content Analysis.

4.6 Tool for Data Collection:

The researcher used an open-ended question to take the expert's views about Dr. APJ Abdul Kalam.

This chapter will be followed by the next chapter of Content Analysis.

Chapter: 5

Content Analysis

5.1 Introduction

To get result for any research one requires data analysis or content analysis for the research. The researcher for the present study has selected the three books authored by Dr. Kalam. As the research is qualitative in nature, the researcher needs to restrict and de-limit her present study because of time-constrain. The researcher first read the books authored by Dr. Kalam and found out some importance points from the books which are:

- Dr. Kalam's views about his Teachers
- Dr. Kalam's high views about teaching profession
- Dr. Kalam's views on leadership quality
- Dr. Kalam's views on education
- Dr. Kalam's views on science and technology
- Dr. Kalam's vision for Indian
- Dr. Kalam's belief in spiritualism
- Dr. Kalam's belief in secularism
- Dr. Kalam's journey: A journey from Rameshwaram to Rashtrapati Bahvan

5.2 Kalam's Views about His Teachers

Dr.APJ Abdul Kalam has a very high opinion about teachers. According to him teacher's influence can mould the personality of the students. Almost in his all books he has presented his high opinion about teacher and also his love and respect for the teachers. In 'Wings of Fire' he has given an example of his one teacher Iyadurai Solomon. Kalam said that when he was at the fifteenth-year he realized that the desire to learn was very important, because he was influenced by his teacher named Iyadurai Solomon, was an ideal guide. The teacher was warm and open-minded. *The teacher taught him "In order to make anything happen, I must desire it intensely. I must also be completely certain that it would happen. I have grown to realize that this kind of conviction is not only a strong motivating force, but it also does make things happen".* (Wings of Fire, P: 10)

Kalam was always fascinated by the mysteries contained in the skies. Equally fascinated was the flight of birds. A simple boy, from a remote part of the country, he was convinced that, one day, he too would fly. In later years, he became the first child from Rameswaram to fly. Solomon was a great teacher because he instilled in children a sense of their own worth. The teacher raised Kalam's self-esteem and convinced him that he too could aspire to become whatever he wished. ***“With faith, you can change your destiny,”*** the teacher said. (Wings of Fire, P: 10)

Dr.APJ Abdul Kalam was also influenced by his teachers of MIT. In the year Kalam spent at MIT (Madras Institute of Technology), his curiosity was aroused by two de-commissioned aircraft which were kept on display to demonstrate the various subsystems of flying machines. Kalam felt stranger attraction towards them, and would sit near them long after the other students had gone back to the hostel. In the course of his education at MIT, three teachers shaped his thinking – Professor Sponder, KAV Pandali and Narasingha Rao were distinct personality, different in many ways but sharing a common trait – the capacity to feed their student's intellectual hunger with brilliance and untiring zeal.

Professor Sponder taught Kalam technical aerodynamic, was always calm, energetic and in control of himself. ***The teacher told Kalam, “One should never worry about one's foundations, but have a sufficient amount of aptitude and passion for one's field of study”.***

Prof. KAV Pandali taught aero-structure design and analysis, was friendly and enthusiastic teacher. Prof. Narasingha Rao was a mathematician, who taught him theoretical aerodynamics. (Wings of Fire, P: 12&13)

5.2.1 Kalam's High Views about Teaching Profession

Dr.APJ Abdul Kalam has a very high dream about India and also for its teachers. In his book 'You Are Born to Blossom' he imagines that there will be a total change in scenario in teaching-learning progress as teachers will be orchestrating learning rather than dispending information. ***“I dream that by 2020, schools in India will go from buildings to symbiotic nerve centers, with walls that are porous and transparent, connecting teachers, students and community to the wealth of***

knowledge that exists in the world. The teacher will be orchestrating learning rather than dispensing information. Teachers would help students turn information into knowledge, and knowledge into wisdom. People of all age will seek learning to prepare for life in the real world.” (You Are Born To Blossom, P: 15)

According to Dr. Kalam to be instrumental in bringing social change teacher should realize his responsibility. They should be passionate, dedicated and devoted. That’s why in his book ‘You are Born to Blossom’ Kalam mentions some oaths which should be taken by the teachers. On Teacher’s Day 2006, Dr APJ Abdul Kalam administered 10-points oath during the presentation of National awards to meritorious teachers. The oath goes like this:

1. I will love teaching. Teaching will be my soul. Teaching will be my life’s mission;
2. I realize by being a teacher, I am making an important contribution to the efforts of nations development;
3. I realize that I am responsible not only for shaping students but also for igniting youth who are the most powerful resource under the earth, on the earth and above the earth;
4. I will consider myself to be a great teacher only when I am capable of elevating to average students to the high performance and when no students is left out as a non-performer.
5. I will organize and conduct mu life, in such a way that my life itself is a message for my students;
6. I will encourage my students to ask questions and seek answers in order to develop the spirit of enquiry, and they blossom into creative enlightened citizens;
7. I will treat all the students equally will not support any differentiation on account of religion, community or language;
8. I will continuously build my own capacities in teaching so that I may impart quality education to my students;
9. I will great thought and spread the nobility in thinking and action among my students; and
10. I will always celebrate the success of my students.

(You Are Born To Blossom, P: 53&54)

Kalam supports his views about teachers by talking about the role of teacher in Buddhism in his book 'You are Born to Blossom'. Kalam writes "the teacher occupies the center stage in Buddhism. The teacher must teach with the thought, "I will speak step-by-step." The teacher must teach with the thought, "I will speak explaining the sequence of cause and effect." The teacher must teach with the thought, "I will speak out of compassion." The teacher must teach with the thought, "I will speak not for the purpose of material reward." The teacher must teach with the thought, "I will speak without disparaging myself or others." (You Are Born To Blossom, P: 51)

Dr. Kalam in his book "You Are Born To Blossom" says, "Every year on 5th September, India celebrates its teachers. The day is remembered as Teacher's Day to commemorate the birth anniversary of India's second President and teacher, philosopher, Sarvepalli Radhakrishnan (1888-1975). His dream was that **"Teachers should be the best mind in the country."** (You Are Born To Blossom, P: 140)

Dr. Kalam also focuses on Spiritual education and that is why in his book "You Are Born To Blossom" says, "To teach is to connect the individual with the reality. It, indeed, involves creating a bridging spiritual formation. Three spiritual practices are important:

- (1) The study of sacred texts
- (2) The practice of prayer and contemplation, and
- (3) The community life. In Buddhism, it is so articulately said: **Buddham sharanam gachhami, Dharmam sharanam gachhami, Sangham sharanam gachhami**, - to the Buddha I go, to good conduct I go, to community I go.

(You Are Born To Blossom, P: 145)

In "You Are Born To Blossom" Dr. Kalam expresses his belief that teaching is not a profession; it is a calling, a voice of moral demand that asks us to become someone we are not yet- someone different someone better and someone just beyond our reach. A career in teaching is not for achievement but is a gift to be received.

(You Are Born To Blossom, P: 148)

Dr. Kalam says 20th century is the century of science and technology which changed the scenario of the education system which he mentions in his book "You

Are Born To Blossom” by stating, “Today’s students live in a world that is extremely fast-paced, constantly changing, increasing culturally diverse, technologically driven and media-saturated. We cannot continue to deliver a 20th century, scientific-management, factory-model education. This new context of the 21st century requires that we redefine ‘education’, ‘school’, ‘curriculum’, ‘teacher’ and ‘learner’. It requires that we provide an education designed to help our students truly succeed. I feel our education system needs to transform itself from a preaching to a coaching mode.

(You Are Born To Blossom, P: 152)

5.3 Kalam’s Views on Leadership Quality

Throughout his career Kalam shows strong leadership quality. Though he was born in a small town and had poor and uneducated parents, Kalam rose to the position of president by his sheer, intelligence, hard work, positive attitude and dedication. In “Wings of Fires” there is one example of Kalam’s leadership quality when he was posted to the new establishment at The Aeronautical Development Establishment in Bangalore. In the first year, the workload at ADE was quite light. Soon, based on his preliminary studies, a project team was formed to design and develop an indigenous hovercraft prototype, a ground of equipment machine. It was a small working group of four people, with him to lead the team. The project was, by any standards, bigger than all their capacities put together. None of them had any real experience in building a machine. There were no design or standard parts available. They tried to read all that they could find on hovercrafts, but there were no much material available. They tried to consult people knowledgeable in this area, but could find none. One day, Kalam decided to go with the limited information and resource available. After spending a few months on drawing board, they moved straight on to actual model. Part by part, subsystem by subsystem, stage by stage, things started moving. This endeavour to produce a wingless, light, swift machine opened the window of his mind. This initiative by Kalam shows his leadership quality.

(Wings of Fire, P: 22&23)

In ‘You are Born to Blossom’ Kalam discusses the some good qualities of a leader. According to Kalam the leader uses passion and stirs emotions. A leader is

someone whom people naturally follow by choice. A leader may have no organization skills, but his vision unites people. Leaders are innately observant and sensitive people. They know their team and develop mutual confidence within it. Leaders stand out by being different. They question assumption and are suspicious of tradition. The leader seeks the truth and makes decision based on facts. The scientific leadership theory identifies six critical capabilities that are – (1) vision, (2) values, (3) wisdom, (4) courage, (5) trust, and (6) expression. The four vital leadership conditions necessary for these capacities to make a difference are: (1) a place where the leader can hold sway,

- (2) A period that calls for his or her leadership,
- (3) A position that conveys leadership authority, and
- (4) People who are ready for leadership

(You Are Born To Blossom, P: 71)

In Kalam's word, "How good is a leader? As good as the commitment and participation received from her or him team! Getting the team together to share whatever little development had been achieved – results, experiences, small successes and the like – seemed to him worth putting all his energy and time into. The slight loss of time was a very small price to pay for that commitment and sense of teamwork. Within his own small group of people I found leaders, and learned that leaders exist at every level."

5.4 Kalam's Views on Education

A Dr. APJ Abdul Kalam view about education is that it is a process which begins from womb and ends with tomb, which starts from cradle and ends with grave. In his book 'You are born to Blossom' he visualizes life as a learning process. There is a gradual process of acquiring knowledge and education which prepares an individual for life. Education encompasses teaching and learning specific skills, and also something less tangible but more profound: imparting good judgment (viveka) and wisdom. Above all, education is a vehicle of culture from generation to generation. A good education system must, therefore, investigate the structure,

materials and the condition of culture property (sanskriti). (You Are Born To Blossom, P: 23)

5.4.1 Innovations in Education

Dr. Kalam was one of the original architects of The EDUSAT satellite system which led to the arrangement for distance learning that India is putting in place at both school and university levels. Distance learning is a dry term that sounds like a behaviorist parody of the rich environment for learning. Distance learning shares its first revolutionary feature with other application of technology to the manufacture of products and the provision of service. Using various media, from print to web, high-quality learning materials can be developed with low-units costs. This makes education more accessible and more affordable. Open universities bring together teams of academics and experts to develop their course, a singular innovation that converts teaching, like research, into a collective endeavour. Distance learning has also invented or rather recovered, since times. In effective distance learning system, the tutor metaphorically walks along with the students, as in the passage from Camus that Dr. Kalam quotes, ***“Don’t walk in front of me; I may not follow. Don’t walk behind me; I may not lead. Just walk beside me and be my friend.”***

(You Are Born To Blossom, P: 16)

Dr. Kalam says that India has produced great philosophers and teachers. They have great impact on him and that is why in his book “You Are Born To Blossom” says, “I have read the works of Rabindranath Tagore (1861-1941), Swami Vivekanand (1863-1902), Sri Aurobindo Ghosh (1872-1950) and Jiddu Krishnamurti (1895-1986). In ‘You Are Born To Blossom’, he mentions the thoughts of Rabindranath Tagore and Jiddu Krishnamurti provide two polarities: Rabindranath Tagore viewed culture as the medium in which the individual potential finds expression; Jiddu Krishnamurti saw culture as a barrier that must be overcome for innovation to happen. This comparison shows Abdul Kalam’s critical attitude. (You Are Born To Blossom, P: 95)

Further he writes about Krishnamurti, “he described education as a three-fold process. Education starts with addressing the elementary behaviour of the person;

- ❖ The person is educated as an individual; and
- ❖ The person is educated to be a part of society, humanity, nature etc.

Education is, therefore, not limited to preparation for only a part of life, like work or career, but is about grounding oneself to understand the nuances of the life for a purposeful existence. (You Are Born To Blossom, P: 98)

Jiddu Krishnamurti stated the purpose of education is to bring about freedom, love, the flowering of goodness and the complete transformation of society. This freedom is, indeed, internal rather than the political type. Education must be concerned with deeper freedom of the psyche and the spirit. The inner liberation is both the means and the ends of education. There can be no freedom at the end of compulsion.”

(You Are Born To Blossom, P: 99)

Dr. Kalam’s views about Tagor are, “Rabindranath Tagor (1861-1941), Asia’s first Nobel Laureate, saw education as a vehicle for appreciating the richest aspect of other cultures, while maintaining one’s own culture specificity. He wrote: ***“Education has its only meaning and object in freedom from ignorance about the laws of the universe, and freedom from passion and prejudice in our communication with the human world.”*** He visualized an education that was deeply rooted in one’s immediate surroundings but connected to the culture of the wider world, predicated upon pleasurable learning and individualized to the personality of the child.”

(You Are Born To Blossom, P: 119)

5.5 Kalam’s Views on Science and Technology:

Being a scientist Kalam has a very high view about Science and Technology. In his book “You Are Born To Blossom” writes, “The rapid development of the information and communication technology (ICT) has brought about deep changes in our way of working and living, particularly in the urban areas. As the widespread diffusion of ICT is accompanied by organizational, commercial, social and legal innovations, low-cost information and ICT are in general use.” (You Are Born To Blossom, P: 35)

Dr. Kalam believes that there is nothing like bad science or good science. Science is indeed universal. For example, we can either nuclear Science for producing electrical energy or use it for making a nuclear weapons. The choice lies with the user. The right type of use has to come from the right thinking. This thought led me to a deeper reflection. (You Are Born To Blossom, P: 35)

Dr. Kalam further writes in his book “You Are Born To Blossom”, “Is there any goal of science? In his opinion, the underlying goal or purpose of science is to produce useful models of the reality for the individual and society. It is incorrect to say that science is totally evidence based. It is virtually impossible to make inference from the human sense because their capacities are severely limited. Despite popular impressions of science, it is not the goal of science to answer all questions. The goal of science is to answer only those that pertain to perceived reality. Science does not and cannot produce absolute and unquestionable truth. Rather, science tests some aspect of the world and provides a reasonable theory to explain.”

(You Are Born To Blossom, P: 134&135)

According to Dr. Kalam 21st century is known as the century of Science and Technology. The major changes occurred due to this century is in industrials. In “You Are Born To Blossom” he says, “Research in **food** technology has created new ways of preserving and flavouring what we eat. Research in **industry chemistry** has created a vast range of plastics and other synthetic materials, which have thousands of uses at home and in industry. **Synthetic materials** are easily formed into complex shapes and can be used to make machines, electrical and automotive parts, scientific and industrial instruments, decorative objects, containers and many other items. Along with these achievements, science has also brought about technology that helps save human life. The dialysis machine enables many people to survive kidney disease that once proved fatal. Biochemical research is responsible for the antibiotics and vaccinations that protect us from infectious disease, and for a wide range of other drugs used to combat specific health problem. As a result, most people on the planet now live longer and enjoy themselves healthier lives than ever before.

(You Are Born To Blossom, P: 136&137)

5.6 Kalam's Vision for India

“The dream is not what you see in sleep. Dream is which does not let you sleep”

One of the greatest president, scientist and educationist, Kalam has strong faith in vision and dream. According to him we can make our life according to our thinking, so he suggests to every Indian ***Dream Dream Dream***.....

Dr. APJ Abdul Kalam has strong faith that India can become one of the greatest countries in the world by 2020. In support of his vision, in his book ‘You Are Born To Blossom’; he has presented actual data and research. India with its rich culture heritage and thousands of years of history of civilization need not aspire to become like any other country. For India, realizing the vision for 2020 is not an end in itself, but rather an essential condition for allowing the seed-spirit of this country to germinate in the Globalised clay of the 21st century world and flourish.

(You Are Born To Blossom, P: 36)

As a visionary person or have a dream to develop India by 2020, Kalam has a very clear vision for the nation also. In “India 2020” he writes, “Nation are built by the imagination and untiring enthusiastic efforts of generation transfers the fruits of its toil to another which then takes forward the mission. As the coming generation also has dreams and aspiration for the nation’s future, it therefore adds something from its side to the national vision; which the next generation strives hard to achieve. This process goes on and the nation climbs steps of glory and gains higher strengths.”

(India 2020, P: 21)

According to Kalam’s vision for nation is: “Any organization, society or even a nation without a vision is like a ship cruising on the high seas without any aim or direction. It is clarity of national vision which constantly drives the people towards the goal. Our last generation, the glorious generation of freedom fighter, led by Mahatma Gandhi, and many others set for the nation a vision of free India. This was the first vision, set by the people for the nation. It, therefore, went deep into the minds

and the hearts of the masses and soon became the great inspiring and driving force for the people to collectively plunge into the struggle for freedom movement. The unified dedicated efforts of the people from every walk of life won freedom for the country.”

Kalam’s another vision for his nation is: “The next generation (to which I also belong) has put India strongly on the path of economic, agricultural and technological development. But India has stood too long in the line of developing nations. ***Let us, collectively, set the sound national vision of developed India.*** I am confident that it is very much possible and can materialize in 15-20 years’ time.” (India 2020, P: 21&22)

5.6.1 Kalam’s Views about Importance of Knowledge in 21st century

Dr. Kalam has a very clear vision for India by 2020 and that’s why in his book ‘India 2020’ he talked about importance of knowledge in the 21st century. India needs a large number of talented youth with higher education for the task of knowledge acquisition, knowledge imparting, knowledge creation and knowledge sharing.

Dr. Kalam says, “What is there which is revolutionary in the established evolutionary trajectory of 5000 years? What is that stands unique in the present age? I believe it is expounding of knowledge. Knowledge is the most powerful force at the moment that is leading human societies to newer forms of existence. Hazrat Inayat Khan expressed in this way:

***“Knowledge will surrender nothing to man
Unless man surrenders his all to it”***

5.6.2 Dr. Kalam’s Vision for Common Public

Dr. Kalam doesn’t want any kind of weakness for Indians. He wants that not only few people prosperous and progress but the masses should have secure life. In his book ‘India 2020’, he writes, “we believe, moreover, that while aggregated indicators are importance. ***It does not make sense to achieve a ‘developed’ status without a major and continuing upliftment of all Indians who exists today and of the many more millions who would be added in years to come.*** They should all have

a secure and enjoyable ‘present’ and also be in a position to look forward to a better ‘future’. Such a developed India is what we are looking for”.

5.6.3 Dr. Kalam’s Vision for Technology

Dr. Kalam in his book “India 2020” focuses on the technological imperative for India to develop her internal strength, keeping in mind three dynamic dimensions:

- The people
- The overall economy
- The strategic interests.

These technological imperative also take into account a ‘fourth’ dimension, time, an offshoot of modern- day dynamism in business, trade, and technology that leads to continually shifting targets.

5.6.4 Dr. Kalam’s Vision for Engineering Industries

Dr. Kalam has a very sharp vision for the engineering industries and it’s clearly mentions in his book “India 2020”. Some of the elements envisaged in the TIFAC technology vision report for engineering industries are:

- By 2010, 60 per cent of the machine tools produced will be Computer and Numerical Controlled (CNC).
- By 2020, 80 per cent of the machine tools produced will be CNC.
- By 2000-05, Indian industries will go in for flexible manufacturing system (FMS), artificial intelligence (AI), applications, processing using laser, water jet, etc., cold forming/extrusion, near net shape manufacturing, high speed machining, intelligent manufacturing using sensor, continuous forming, reduced set-up times, virtual reality application and hard machining.
- Boiler designs for many alternate fuels will be available by 2005. Fluidized bed combustion technology will be wide use by 2000-05.
- By 2000-05, technological upgradation covering material design, manufacturing, quality, reliability, packing, marketing and servicing will take place. These will include Computer Aided Design (CAD), Computer Aided Manufacturing (CAM),

FMS, ISO 9000, ISO 14000, R&D in new materials, modular design, casting and forging, mechatronics, precision manufacturing and automation.

- Design and development of high-precision machine tools, high-speed spindles, liner motor slides, diamond tuning machines, etc. will also come up.
- India will become a net exporter of technologies by 2010.
- Software development for processes and systems will take place.
- By 2020 India will be a leading producer of quality casting and forgings and will be a large exporter of these items. India will be self-sufficient in advanced machine tools and boilers using state-of-the-art technologies. Exports of these items will progressively increase.

Employment generation will be on the rise. (India 2020, P: 146&147)

5.6.5 Dr. Kalam's Vision for Textile Machinery

Dr. Kalam as a visionary person have a great vision for textile machinery also and in "India 2020" he briefly mention about his vision which are as under:

- By 2000, technology upgradation, productivity improvement, energy conservation and environmental protection aspects and quality improvement will take place. This will include use of CAD/CAM, robotics, high-speed machines, material handling systems, auto doffing and high-speed ring frames, electronic instrumentation and computerized automation, air jet looms, spinning and preparatory-autoleveller cards and draw frames.
- Agricultural research will result in better cotton yield. Organic cotton and colored cotton will be available.
- There will be a reduction in the cost of hank yarn, use of cone yarn by handlooms, development of high-value yarn, and production of industrial filter fabrics medical textiles and use of micro fibres.
- By 2010, eco-friendly textile exports and domestic use will start. Production of geo and technical textile will begin in a major way.
- Machinery modernization will be achieved and there will be developed of advanced machines with electronic controls. New weft insertion techniques and a continuous rotating system for weaving will be developed.

- High-tech knitting technologies, multifaceted weaving, melts pinning of microfilament yarn, eco-friendly processing, improvement in indoor air quality and recycling of waste will be done.
 - Fibre inputs like jute, linen, polyester, acrylics and polypropylene will find a place in yarn manufacture.
 - Large-scale units with assembly line plants will diversify into high-value garments, jackets, industrial wear and sportswear; integrated textile mill will enter garment manufacture by 2010-20.
 - Fashion changes will be faster by 2000 than at present.
- Employment of women will be on the increase, especially in garment making.

(India 2020, P: 149&151)

5.6.6 Kalam's Views about Health

In "India 2020" Kalam writes about "Health Care for All" as a separate chapter. In that chapter he writes, "Former Prime minister I.K. Gujaral, in his address to the 1998 Science Congress at Hyderabad, made a revealing remark on the state of our basic amenities. 'I see before me the bottled water kept for the dignitaries on the dais. It reminds me of three classes of Indians: one who can afford bottled water; other who manage to get some water in their taps or in a nearby tap or a pump irrespective of its quality or regularity of supply; the third set of Indians are those for whom drinking water is a daily problem and who will be ready to drink any polluted water.' For such situation to persist after fifty years of independence was a nation shame, he added."

(India 2020, P: 217)

5.6.7 Kalam's Views about Disease Prevention

Dr. Kalam further writes about disease prevention in his book "India 2020". He says, "Most communicable disease, however, can be prevented by suitable sanitation systems, control of disease-spreading materials (such as foul water) or

vectors (like mosquitoes), and by immunization programme carried out on a large scale. A number of diseases can be controlled by paying adequate attention to nutrition and dietary supplements. For example, the use of iodized salt can prevent goiter, which is rampant in many parts of the country. The intake of vitamin A can prevent blindness. Globally, 25 per cent of blind and visually people who can afford it, a balanced food intake and physical exercise can help prevent several forms of heart disease.”

(India 2020, P: 218)

5.6.8 Kalam’s Vision for Integrated Action for the Industries

Dr. Kalam in “India 2020” writes about the integrated actions which are as under:

➤ ***Agriculture and food processing***

India should have a mission to achieve a production of a minimum of 360 million tonnes of food grains in two decades. This will allow for good domestic consumption and still leave a sufficient margin for food exports and aid to other countries. This mission will demand a great revolution in research, technology development, agricultural extension services and above all a major network of marketing, storage and distribution. (India 2020, P: 300)

➤ ***Electrical power***

This is the most important part of the infrastructure. The growth of a nation’s GDP is vitally linked to the availability of electric power. India’s installed power capacity today is about 8500 MW. Only about 3200 MW reaches the consumer. There is storage of about 15 per cent in the peak power requirement. The requirement of electric power will only multiply because of the growth in the demand from various sectors. Immediate action is needed to greatly step up the generation of electricity from coal, gas, hydro and nuclear source. Consumers too have to be careful. Precious power should not be wasted by inefficient equipment, fans, lights or other industrial and domestic appliances or agricultural equipment. Therefore, technologies for energy-efficient end use appliances are of crucial importance to India.

(India 2020, P: 300&301)

➤ ***Education and Health***

Prof. Indiresan, who led the TIFAC panel to identify the driving forces and impedances, has tried to point the way out. Indians should be provided access to first-rate education and skill development opportunities. This cannot be done by the prevalent methods of village schools or other schools and institutes in town and cities. We need to create clusters of villages with excellent internal connectivity through road and communications which is also linked to nearby urban centers. These rural clusters would have quality centers of education, and health support facilities. People can easily commute between the village and acquire the best skills and education. Their access to well-equipped health care centers will be the necessity. These centers would have the knowledge base to advise them on preventive health care methods. The teachers or medical personnel in these quality centers would also have access to other experts in India and even abroad through communication connectivity. Let us not forget India's excellent achievements in satellite communications. Besides technological expertise, what is required is good political and managerial leadership all over the country to implement this mission. Let not the children and grandchildren of Kuppas and Karuppanas be handicapped. We can achieve an India without such handicaps by 2020. (India 2020, P: 301&302)

- India should become a developed nation by 2020.
- A developed India means that India will be one of the five biggest economic powers, having self-reliance in national security. Above all, the nation will have a standing in world economic and political fora.
- To achieve this status, several steps are to be taken in agriculture such as making eastern India a wheat granary and increasing the use of hybrid rice, as also for improving the quality and yield of various crops, vegetables and other products. Environmental consideration in agriculture gain attention.
- Capitalize on the agricultural core strengths to establish a major value-adding agro-food industry based on cereals, milk, fruits and vegetables to generate domestic wealth.
- Agro-food industry and distribution system should absorb a number of person rendered surplus from increasingly productive and efficient agriculture.

- A number of engineering industries and service business to grow around the agro-food sector.

5.6.9 Dr. Kalam's Vision for the Progress of the Other Countries

Dr. Kalam quotes the vision of other countries to show that their vision led them to success and prosperity e.g. the United State of America is a big economy that has grown over two centuries into a major industrial, commercial and military power. In addition to abundant natural resource and hard work of an adventurous people, the two world wars also helped the USA to develop much technological strength. The UK has started a Technology Foresight Programme supported by the government. Germany has also adopted some element of the Japanese twenty-five-year Technology Vision Exercise in projecting the nation's future possibilities. In France the government has always played a productive role in developing core technology strength in many areas: military, aerospace, electronics, biotechnology and agro-food sectors. All these visions drew on individual research, reports from private agencies as well as national. (India 2020, P: 28)

5.7 Dr. Kalam's View about Youth

Dr. Kalam has inspired by the young generation and he has lots of hope from the young generation to develop the country. In "India 2020" he writes, "Young students are, quite naturally, impatient to reach the end without delay. They like to skip the intermediate stages; they are impatient of being on the way to something unknown, something new. I want them to understand that it is the law of all progress that it must pass through some stage of instability.

Young students must learn to let their dreams mature gradually – let them grow. Let them shape themselves, without undue haste. Don't try to force them on. Grace and circumstances acting on your own goodwill will certainly help you realize your dreams.

Ancient Hindu texts prescribed Daana (charity) as one of the way to aquire merits and place in heaven. In Islamic tradition Sadaqah (voluntary charity), zakat (obligatory charity) in addition to good treatment to orphans, parents and the elderly have been the forms of charity advocated. Since human beings receive God's mercy, serving

God regularly by means of good work and gift making is essential. In Gurudwaras (Sikh temples) all those who visits are served free food (langar). Christian faith also discusses the notion of charity, which denotes the love between God and human being. Love for human beings is considered as love for God. Surrender and contribution of a prescribed percentage of income as a measure of gratitude to god, were the common practice in Christian faith.

5.8 Dr. Kalam's Belief in Spiritualism:

“No religion has mandated killing others as a requirement for its sustenance or promotion.”

Though Kalam is a teacher, scientist, former president of India he has strong roots in religion. In “Wings of Fire he writes, “When he was a child, his father would take him for evening prayers to the mosque. He would hear the Arabic prayers being chanted, without the faintest idea of what they meant. But he was totally convinced that the prayers reached God. When he was old enough to ask questions, he asked his father about prayer and its relevance in communicating with God. His father explained that there was nothing mysterious or complicated about praying. ***“When you pray, you move beyond your body and its material concerns. You become a part of the cosmos, where wealth, age, caste, and creed are not standard for divining people.”*** (Wings of Fire, P: 2)

Dr APJ Abdul Kalam is indeed a deeply spiritual person. His spiritualism is deeply rooted and find its source in both Hindu and Muslim scriptures. In ‘You Are To Blossom’ he quotes an example from The Mahabharata. He wrote in his book that India’s great epic, the Mahabharata, as the battle is about to begin, Arjuna, himself an acclaimed warrior, wonders how he could kill his own blood relatives with whom he had grown up as a child. He puts the battle on hold and begins a conversation with Lord Krishna. The Bhagvad-Gita (The Song of God) begins here and ends with Lord Krishna Convincing Arjuna that in the grand scheme of thing, he is only a pawn. The best he could do is by doing his duty and not question God’s will. ***“The law of universal causality represents the core of Indian spirituality. It connects man with the Cosmos and fixes the responsibility of every action performed.”***

(You Are Born To Blossom, P: 57)

Dr. Kalam's strong faith in God and divinity is reflected in all his writings. In 'Wings of Fire' he writes ***“Every human being, in his or her own time, place and situation – be it good or bad-becomes a part of the divine being that we call God. Trouble and adversity come to teach us, and to jolt us out of complacency and self – conceit.”***

(Wings of Fire, P: 2&3)

In “You Are Born To Blossom” Kalam further says, “He see spirituality as something which is real, to be explored by a close attention to our immediate world, and yet waiting to be realized. Spirituality is the capacity to dream, visualizing something which is a remote prospect and yet the greatest of present possibilities of our life. I see spirituality as something which embeds us in harmonious relationships with others, and yet, at times, will require a journey in solitude. To me, a spiritual vision is one that makes us participants in the unfolding of the universe. Spirituality is indeed, all about connectivity with the cosmos. It can be described as a vision requiring the exercise of mind, heart and body. (You Are Born To Blossom, P: 142)

5.9 Dr. Kalam's Belief in Secularism

One of the greatest virtues of Kalam is his open-mindedness. Though he was born in Muslim family, he is not narrow-minded and accepts the views of other religions open-hearted. He believes in secularism and said that his spiritual roots come from the multi-religious environment of Rameswaram Island. He grew up amidst the sound of prayer calls from the mosque, Church bells and temple music, all three interfused and yet distinct. Kalam lived in an island where everything- the sea, the moon, the seagulls, the sand, the shells, the pilgrims, the porters, the coconut trees – was interconnected. (You Are Born To Blossom, P: 25)

Though he was Muslim, his family used to attend the Sita Rama Kalyanam ceremony. It shows the beliefs of the family in Hindu ritual which is presented in his book 'Wings of Fire'. He writes, “In the epic Ramayana, Rameswaram is the site from which Rama is said to have launched his assault on the evil king Ravan. This mention

in the epic placed Rameswaram on the Hindu religious map. During the Shri Sita Rama Kalyanam ceremony held to commemorate this occasion, our family used to arrange the boats that carried the idols from the temple to the marriage site, situated in the middle of the Rama Tirtha pond”.

5.10 Dr. Kalam’s journey: A Journey from Rameshwaram to Rashtrapati Bahvan

Reflecting on his inner journey Kalam describes it as “a journey of adventure and discovery from Rameshwaram to Rashtrapati Bahvan – a journey of truth and authenticity, a journey of love, devotion and passion; a journey of compassion giving and service.” ...in this journey he had both good and bad moments where he celebrated his country’s success moments where he was highly disappointed and frustrated. He has expressed his feelings in the following words:

God has not promised

Skies always blue,

Flower-strewn path ways

All our life through;

God has not promised

Sun without rain

Joy without sorrow,

Peace without pain

But God has promised

Strength for the day

Rest for the labour

Light for the way.

Dr. Kalam says that no one, however poor, under-privileged or small, should feel disheartened about life. He believes that every individual creature on this beautiful planet is created by God to fulfill a particular role and therefore one should not blind oneself in the bondage of illusory backwardness and helplessness. He has written his autobiography not to glorify himself but with a purpose of lifting each soul from the plague of inferiority. Irrespective of where one is right then, one should be aware that God is with them and if he is with them who can be against them?

At the tender age of eight, Kalam used to collect the tamarind seeds and sell them to a provision store. In later childhood he distributed newspapers. During those days India was still under British rule. One day the British authorities suspended the train half at Rameshwaram station now the newspaper had to be bundled and thrown out from the moving train on the Rameshwaram and Dhanskodi Kalam thus earned his first wage. As a child Kalam loved to see sky and the flight of birds, he always wished to fly in the sky but never knew what to do to fulfill his dream. Only after B.Sc. he realized that he should go for Engineering. He got admission at MIT, but his father could not afford the amount required for his fees, his sister Zohara mortgaged her gold bangles and chain for his admission fees, further the only ways to continue education was to work hard and get scholarship.

In third year of engineering, his group was supposed to design a low-level attack aircraft. Professor Srinivasan, his teacher was disappointed with their work and gave them a dead line of three days and said if it is not done your scholarship would be stopped. After struggling day and night ne could complete his task. Prof. Shrinivasan was surprised and said, “I knew I was putting you under stress and asking to meet impossible deadline. I never expected you to perform so well.

Kalam journey of struggles does not end here. As an aeronautical engineer to fulfill his dream, Kalam had two options. One was a career in the Air Force and another was a job at the Directorate of Technical Development and Production, DTD & P (AIR) at the Ministry of defence. Kalam applied for both and received call letters. He went to Dehradun, for his interview at Air Force but was not selected. He was deeply disappointed, later he met Swami Shivanand, who helped him to come out from his disappointment. Swami Shivanand told him, “Accept your destiny and go ahead with your life”. He accepted his failure and moved ahead. He returned to Delhi and enquired at the DTD&P (Air), where he was selected. He joined DTD&P (Air) as a senior Scientific Assistant, thinking, and “If I am not flying aero planes, I am at least helping to make them air worthy.

1968 saw the failure of Pyro-timer Circuit, 1979 the abortion of SLV-Diamant. Kalam was highly disappointed and frustrated but Dr. Brahma Prakash provided him solace and filled him with confidence. Finally on 18th July 1980 he and his teammates were successful; launching SLV-3 'Agni' his long cherished dream also met with a failure, with this came a lot of criticism from media. Cartoonist, Sudhir Der sketched a shopkeeper returning a product to salesman saying that Agni it would not take off. Hindustan Times showed a leader consoling press reporters "There's no need for any alarm, it's a purely peaceful non violent missile. The Hindu carried a cartoon by Keshav showing a villager counting some currency notes and commenting to another, "Yes, it's the compensation for moving away my hut from the test site, a few mere postponements and I can build a house of my own." Another cartoonist designated Agni as IDBM (Intermittently Delayed Ballistic Missile) but even after criticism flowing from all corners, he did not lose hope and kept on encouraging all the members at Defence Research and Development Laboratory (DRDL). Finally a successful launch was made on 22nd May 1989. Thus for him problems were a part of life and sufferings the essence of success."

5. 11 Expert's Opinion about Dr. APJ Abdul Kalam:

The researcher contacted the experts and gave them one open-ended question. The question was:

In your views Dr. APJ Abdul Kalam is a person

The experts gave following answers:

Dr. Kalam is indeed a true nationalist who has a strong faith in the potential of young generation. His books reflect his vision which is a combination of idealism as well as practical wisdom. Let us salute him for his vision and optimism.

Dr. Rakesh Rajan (M.Com, M.Ed, M.Phil, Ph.D)

Dr. Kalam's books reflect that he has a nice blend of science and spiritualism. Though a great Scientist, he has a strong faith in Supreme Power.

Dr. Nandita Nagar (M.Sc, M.Ed, Ph.D)

Secular in true sense, Abdul Kalam is an epitome of love, wisdom and generosity. May he live long! He reminds me unselfish yogis of past, who used to work relentlessly for the welfare of humanity.

Dr. Bharti Rathore (M.A, M.Ed, NET, Ph.D)

Dr.APJ Abdul Kalam is a highly knowledgeable person, a blend of both philosophy and pragmatism. He has understanding of Indian Culture in true sense. In his books “India 2020”, “Wings of Fire” and also in the movie “I Am Kalam” his personality reflects him as true philosopher and true nationalist because he always thinks about the welfare of the India. He is a scientist of a very high order. He is very down to earth and sensitive towards social issues. He has strong belief that teachers are the moulders of the society and Education is the medium of social achievement.

Dr. Shamsa Emunel (M.Sc, M.Ed, NET, SLET, Ph.D)

Dr. Kalam is not only a scientist but also a real scholar who leads the young generation to achieve the highest goals. His sharp eye, intelligence and a quick decision taking are his real competencies.

Mr. Chirag Darji [M.A., M.Ed, Ph.D (Pursuing)]

Chapter: 6

Implications and Suggestions

6.1 Introduction:

In this chapter, the researcher draws out the educational implications of the selected books authored by Dr. Kalam. The educational implications of his views are presented sequentially as under:

6.2 Educational Implications of the Selected Books Authored by Dr. Kalam

6.2.1 Dr. Kalam's Suggestions to Teachers

- The teacher's influence can mould the personality of the students. (wings of fire)
- The teacher should be warm and open minded. (Wings of Fire)
- The teacher should raise the self-esteem among the students by motivating them. (Wings of Fire)
- The teacher can bring change in scenario in teaching-learning process by orchestrating learning rather than dispensing information. (You Are Born To Blossom)
- The teacher should realize his responsibility to bring social change and to prepare young minds for the nation growth. (You Are Born To Blossom)

6.2.2 Dr. Kalam's Suggestions to Leaders

- A leader should have positive attitude towards the work. (Wings of Fire)
- A leader should have skills like organization, management, communication, empathy, sympathy, decision making and problem solving. (You Are Born To Blossom)

6.2.3 Dr. Kalam's Views about Education

- Education should aim for the wholistic development of the learner. (Wings of Fire)
- Distance learning is useful as it makes education more accessible and more affordable. (You Are Born To Blossom)

- The purpose of education is to bring about freedom, love, the flowering of goodness and the complete transformation of society. (You Are Born To Blossom)

6.2.4 Dr. Kalam's View about Science and Technology:

- Science is indeed universal. (You Are Born To Blossom)
- The goal or purpose of science is to produce useful models of the reality for the individual and society. (You Are Born To Blossom)

6.3 Inspiring Personality of Dr.APJ Abdul Kalam

On the basis of content analysis of the selected books authored by Dr. APJ Abdul Kalam , the researcher arrives at following vision.

1. Dr. APJ Abdul Kalam's life presents a journey of a small town and humble background to the Rashtrapati Bhawan. Thus his life is an example to be followed.
2. Dr. APJ Abdul Kalam's views about Science and Technology present him as a man having scientific temper.
3. Dr. APJ Abdul Kalam emerges as a man having Secular outlook of life is really an example to be followed.
4. Dr. APJ Abdul Kalam has strong faith about the potentiality of the country to emerge as world power in future. This may be a motivating factor for country's youth to work hard to cherish and realize the dream of India attaining greatness.
5. Dr. APJ Abdul Kalam has deep reverence for teacher and he values teaching profession heartily. This value should be learnt by everybody.
6. Dr. APJ Abdul Kalam has innovative views of education. He advocates innovations like distance learning in education. He has also critical view points about philosophers like Jiddu Krishnamurthy and Rabindranath Tagore.
7. An inspiring leader himself, Dr. APJ Abdul Kalam discusses the characteristics of a motivating leader in detailed which are to be learnt by us all.
8. According to the expert's opinion Dr. Kalam is true nationalist, has faith in Supreme Power, highly knowledgeable person, has secular outlook, a scientist of a very high order, very down to earth and sensitive towards social issues, noble and a great philosopher.

6.4 Conclusion

In the present galaxy of stars Dr. APJ Abdul Kalam is one of the most shining stars. He is optimistic, hard worker, very down to earth, practical, quick decision maker, highly knowledgeable, has Scientific temperament, visionary, has secular outlook, love music and literature and wants to prepare young minds as lifelong autonomous learners.

6.5 Suggestions for Further Study

- Similar study can be conducted for reviewing other books authored by Dr. Kalam.
- The research can be conducted on Educational Values or Educational Philosophy as reflected in the books authored by other educationist.
- A Comparative study of Educational Implications of Dr. Kalam can be taken up with the other educational thinkers/ protagonists.

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