

# [The figure of abdul kalam history essay](https://assignbuster.com/the-figure-of-abdul-kalam-history-essay/)

Kalam’s autobiography is as inspiring as his life to the millions of Indians around the world. “ Wings of Fire” is written by one of Kalam’s own pupils, Arun Tiwari. Arun worked under Kalam for over a decade in the Defense Research and Development Laboratory (DRDL) Hyderabad. How difficult this task of writing on Kalam’s life is expressed bu Arun’s own words.

“ Dr Kalam’s conversation was not always easy to follow, but was always fresh and exciting. There were complexities, fineness, an appeal, implied comparison and subplots in his narrative, but gradually the unfolding of his brilliant mind took the form of continuous discourse.”

APJ Abdul Kalam was born in 1931 in the island town of Rameshwaran in Tamil Nadu to a little educated boat owner. His father Jainulabdeen was a spirited man always willing to help others. As Kalam himself said he tried throughout his life to copy the actions of his father in his world of science and technology. Surely he must have been someone special. Kalam’s mother Ashiamma was an ideal helpmate of his father. Her generosity is shown in a way that she daily used to feed quite a number of outsiders. Two other people who influenced Kalam’s boyhood were his sister’s husband, Ahmed Jallaludin, and cousin Samsuddin. Kalam’s talks with Jallaludin mostly revolved around spiritual matters. Although Jallaludin had limited a limited schooling but he always encouraged Klam to excel in his studies. He would discuss with him about educated people, of scientific discoveries, contemporary literature and the achievements of medical science. He was the one who made him aware of a “ brave new world beyond their narrow confines.” Samsuddin was the sole distributor of newspapers in Rameshwaram. Kalam worked for a while as his helper during the outbreak of the Second World War in 1939. Klam inherited honesty and self discipline from his father and faith and goodness and deep hindness from his mother. But the time with Jallaludin and Samsuddin perhaps contributed the most uniqueness to his childhood and made all the difference in his life later on.

The real step in the direction where Kalam stands today was taken when he applied for admission into the Madras Institute of Technology (MIT). He got selected but the fee was too much for his father. His sister Zohara had to mortgage her gold bangles and chains to help Kalam out. From MIT, Kalam went to Hindustan Aeronautics Limited (HAL) at Bangalore as a trainee. There he worked on engine overhauling as part of a team. After leaving HAL he applied to both the Air Force and Directorate of Technical Development and Production DTD&P (Air) of the Ministry of Defense, both close to his long standing dream of flying. In Dehra Dun for his interview at the Air Force Selection Board, Kalam describes the whole situation in these words,

“ At the Selection Board, the emphasis was more on “ personality” than on intelligence. Perhaps they were looking at physical fitness and an articulate manner. I was excited but nervous, confident but tense.”

But unfortunately, Kalam finished ninth in the batch of 25 examined to select eight officers for commissioning in the Air Force. He returned to Delhi and enquired at the DTD&P (Air) about the outcome of his interview. Luckily, he was given an appointment letter and taking this as his destiny, Kalam joined the next day as Senior Scientific Assistant on a basic salary of Rs 250/- per month.

“ No more did I feel any bitterness or resentment at my failure to enter the Air Force.”

At DTD&P (Air), Kalam was posted at the Technical Centre (Civil Aviation) where he carried out a design assignment on supersonic target aircraft with the help of the officers in charge, R Varadharajan and won a word of praise from the director, Dr Neelakantan. To gain floor exposure to air craft maintenance, Kalam was sent to the Aircraft and Armament Testing Unit (A&ATU) at Kanpur. The first major project in the life of Kalama as an engineer was that of the development of a hovercraft prototype as a Ground Equipment Machine (GEM). Despite the unavailability of designs or standard components and the lack of experience in building a machine, Kalam put in all his efforts and worked day and night tirelessly towards the completion of the GEM project. The hovercraft was named Nandi after the bull ridden by Lord Shiva. The project was completed ahead of time but due to constant criticism and controversies the Gem project ceased to exist. The news of the termination of the project was no less than a blow to Kalam as he had put his soul and heart into Nandi. But, Nandi sure brought luck as his work was praised by Prof. MGK Menon, Director of the Tata Institute of Fundamental Research (TIFR). After a week, Kalam received a call from the Indian Committee for Space Research (INCOSPAR) to attend an interview for the post of Rocket Engineer. He was interviewed by Dr Vikram Sarabhai along with Prof MGK Menon and MR Saraf then the Deputy Secretary of Atomic Energy Commission. Kalam was selected as a Rocket Engineer at INCOSPAR which surely was a breakthrough he dreamed of. Later, Kalam joined NASA at the Langley Research Centre (LRC) in Hampton, Virginia. After returning from NASA, India’s first rocket launch took place on 21st November 1963. It was a sounding rocket called Nike Apache made at NASA. In the launch Kalam was in charge of rocket integration and safety. Prof Sarabhai was man who possessed a unique and praise worthy personality. His role was highly regarded in the life Abdul Kalam,

“ Prof Sarabhai’s optimism was highly contagious. The very news of his coming to Thumba would electrify people and all laboratories, workshops and design offices would hum with unceasing activity.”

Such was the personality of Prof Sarabhai. He came up with an idea of a Satellite Launch Vehicle (SLV) and made Kalam a part of that project along with other engineers. But at the same time he was also assign the task of taking up studies on a rocket assisted take off (RATO) for military aircraft. Both Group Captain VS Narayanan and Abdul Kalam were appointed by Prof Sarabhai for the RATO project. RATO motors were mounted on aircraft to provide the additional thrust required during the take off run under certain adverse operating conditions like partially bombed outr runways, high altitude airfields, more than the prescribed load or very high ambient temperatures. The Indian Air Force was at that time in dire need of a large number of RATO motors for their S-22 and HF-24

aircraft. The RATO system was successfully tested on 8th October 1972 at Bareilly Air Force station in Uttar Pradesh, when a high performance Sukhoi-16 jet aircraft became airborne after a short run of 1200m, as against its usual run of 2km. This effort was said to have saved Rs 4 crores in foreign exchange. Despite its success the RATO project was abandoned because the aircraft for which it was designed became obsolete. The new aircraft did not need RATO. With the project called off, Narayanan was DRDO’s logical choice to pursue with the Surface to Air Missile project. SA-2 of Russian origin was chosen to acquire detailed knowledge. The project was named Devil and funding of about Rs 5 crore was made available for the first three years. The project was later accepted and was given a further go-ahead.

At the Vikram Sarabhai Space Centre, work on the SLV went on at full swing.

” All the subsystems had been designed, technologies identified, processes established, work centres selected, manpower earmarked and schedules drawn”.

Kalam was appointed Project Manager-SLV bu Prof Dhawan. During the project, Kalam lost his brother in law and mentor Jenab Ahmed Jallaludin. Later, in 1976 Kalam’s father also passed away, the death of Jallaludiin had taken a toll on his health and spirit. The SLV-3 dream was finally realized in the middle of 1979. The first experimental flight was scheduled on 10 August 1979.

“ The primary goals of the mission were to realize a fully integrated launch vehicle, to evaluate on board systems like stage motors, guidance and control systems and electronic subsystems….”

But, despite all the hard work the SLV-3 failed in the fourth stage and like the RATO was not further continued. This was huge setback for Kalam and his team mates. Kalam could not accept reality after spending countless number of hours in this project and being completely cut off from the rest of the world only for the sake of the SLV-3.

On 1 June 1982, APJ Kalam joined the prestigious DRDL. The organization was famous for its research and development in the field of missile technology, an example was the Devil missile project, although it failed to materialize but it paved a path for Indian missile technology. Later, after days of thinking and debate the Guided Missile Development Programme was established. The idea was to make India self capable and not dependent on Western nations in the field of missile technology. A major problem with development programme is that they stuck or come to a halt before the production stage due to lack of funding. But, even this hurdle was removed when Abdul Kalam convinced the Defense Minister Venkataraman by showing him their proposal which was exactly the Defense Ministry had in mind. The proposal impressed the Defense Minister so much that he accepted the proposal and sanctioned Rs 388 crores, an amount far greater than Kalam’s wildest imaginations. The whole project was designed in order to make India self reliance and do something in the field of technology which has never been accomplished by any other under developed economy. Hence, keeping in view the projects priority and motive, different types of missile systems with unique capabilities were put to the test. The Surface to Surface weapon system became Prithvi (the Earth) and the Tactical Core Vehicle was called Trishul (the trident of Lord Shiva). The Surface to Air area defense system was named as Akash (sky) and the anti tank missile project Nag (cobra). And, Agni (fire) was given to another type of ballistic missile. Later, the happening event for DRDL was the formal launch of the IGMDP on 27 July 1983. The launch of IGMDP was like a ray of hope for India’s road towards self reliance in the field of missile technology as it was considered the field of a few selected advanced nations. So, Kalam was well aware about the criticism and even sanctions that he and his country might be imposed with, but after much waiting there was no turning back. The decisive factor behind the success of this project was the limitless support by the Indian Defense Ministry and Government which was desperately needed in order to pursue with the task. A major problem facing a project of such magnitude is adequate supply of resources but even that was overcome.

“ Defense Minister R. Venkataraman visited DRDL in September 1983 to appraise himself of the activities of IGMDP. He advised us to list all the resources we needed to achieve our goals, overlooking nothing, and then include in the list our own positive imagination and faith.”

By the summer of 1985 after the death of Shrimati Gandhi, all the ground work had been completed for building the Missile Technology Research Centre at Imarat Kancha. Prime Minister Rajiv Gandhi laid the foundation stone of the Research Centre Imarat (RCI) on 3rd August 1985. After long painstaking days and nights the day had finally arrived when Trishul was to be launched fotr the first time, the success of IGDMP was to be experienced. The first launch of the Missile Programme took place on 16th September 1985 when Trishul was launched from a remote test range at Sriharikota (SHAR). It was a ballistic flight meant for testing the in flight performance of the solid propellant rocket motor. The launcher, rocket motor and telemetry systems functioned as planned. The test was successful. The launch of Trishul was followed by another test, this time that of the Pilotless Target Aircraft (PTA) designed by the Bangalore based company Aeronautical Development Establishment (ADE). Prithvi was launched at 11: 23 hrs on 25th February 1988 which proved to be an epoch making event in the history of rocketry in the country. The missile, Prithvi, was not only a surface to surface missile having capable of carrying 10000 kg conventional warhead to a distance of 150km with a precision of 50 meter CEP, it was infact a basic module for all the future guided missiles in the country to come. As suspected earlier the success of Prithvi was no less than a shock to the Western and other technologically advanced nations and later this shock was converted to blunt comments and display of anger.

“ A seven nation technology embargo was clamped making it impossible for India to buy anything even remotely connected with the development of guided missiles. The emergence of India as a self reliant country I the field of guided missiles upset all the developed nations of the world.”

The Agni test was much more complex and time consuming than the previous missile tests. The launch was to take place on 29th April 1989, but multiple technical problems gave the scientists no other choice but to delay the launch until all launch procedures are well checked. The initial test failure brought a flood of criticism on the scientists, but they did not lose hope as they were almost on the brink of making history in the field of Indian missile technology and development. Finally, the launch was scheduled for 22nd May 1989. Agni took off at 0710 hrs and the missile took a trajectory exactly the same way it was designed to. Hence, after years of continuous hard work and determination the Agni missile test was also declared a success. Later tests include Nag, which gave India the status of being equipped with a fire and forget anti tank missile. Akash was test fired on India’s forty fourth Independence Day.

The book Wings of Fire is an autobiography on one of the most profound and well decorated personalities and a former president of India, APJ Abdul Kalam. The book is written in such an extraordinary way that a person can extract and learn a lot from the themes and lessons mentioned in the book irrespective of the reader’s cast, race, religion and specially age. It mentions certain technical and scientific terms that only a person related to such a field can comprehend it but the writing style and the use of vocabulary is used in such a perfect way that a reader is literally glued to it. Moreover, throughout the various chapters it provides us with life relating morals which could be applied in our lives whichever profession we are in. APJ Abdul Kalam more or less unveils the secrets and the true meaning of life through experience, lessons which were once shrouded. Hence, throughout the book APJ Abdul Kalam shares the moments and memories which inspired and boost up his morale in becoming one of the greatest scientists and personalities of India.

The book revolves around a Muslim boy who although was raised like many Indian children, in the scanty suburbs of India, but did not quit imagining and struggling in pursuit of becoming a well renowned scientist. One of the most interesting and surprising part of the book is that a boy although belonging to a very reserved and a humble background could still think about rocketry, aeronautics, poetry, astrology etc. This clearly reflects the young boy’s thirst for knowledge and the will to out shine from his fellow contemporaries. But success did not come knocking at the door, Kalam, as he belonged to the backward and scientifically illiterate region of India, had to strive hard and offer numerous sacrifices in order to accomplish his long waiting dream.

Wings of Fire starts with the first part named Orientation. It discusses the background of Abdul Kalam and his 32year life from his early life as a young boy to joining the career he once dreamt of, along with that the people who helped Kalam in paving this path. Life in Rameswaram was tough as everyone had to work to support their families. At the village his best friend was Ahmed Jallaludin who later married his sister. He discussed with him all the facts and topics relating to religion, science and technology, poetry, astronomy etc., hence, like mentioned before the boy from a young age had a great interest in acquiring knowledge. Kalam from a tender age had a great interest for rocketry and aeronautics which compelled him to pursue his career in the field of science and technology or become a pilot.

“ In the humble environs of my boyhood, books were a scarce commodity”

The above statement shows the scholastic condition of Kslam’s home town, the place where he grew up. The life of APJ Abdul Kalam as a student was in simple words brilliant and outstanding as he excelled and out stand from all his fellow students. The initial chapters also discusses the ordeals a middle class family has to grow through in getting education, Kalam was also a victim of such misery and helplessness. Such a moment arrived when he got through with his BSc degree course at St. Joseph’s and decided to continue further education. After obtaining his BSc degree he realized that physics was not his field and hence intend to opt for engineering which took him into applying for Madras Institute of Technology (MIT), which is regarded as the “ crown jewel” of technical education.

“ I managed to be on the list of selected candidates, but admission to this prestigious institution was an expensive affair.”

Again, it reflects the same point that even acquiring knowledge was difficult in Kalam’s life. But his sister Zohara stood behind her as she mortgaged he gold bangles and chain so that Kalam can continue with his lifelong dream. This sacrifice clearly depicts Zohara’s feelings and belief in his brother’s dream and also acting one of those special people who helped in making Abdul Kalam what he is today. In chapter 3 of the book, the life of APJ Abdul Kalam evolves as he exits his student life and enters a professional one. As mentioned earlier, Kalam’s dream since his days in Rameswaram was to become a pilot as per his love for aviation and rocketry. For this he travelled to Dehra Dun where he gave the entrance exam and interview. Now all he could do was waiting and pray but the day when Kalam’s future was to be revealed, proved to be disappointing. His long cherished dream of flying were shattered in a matter of minutes but he kept his hopes high and tried to convince himself that he was not destined to fly. The theme of this short story or event is tha one should never lose hope or the will to excel because no matter what plans and careers we decide for ourselves it is in the end the will of God that makes the final judgment, after all He is the best of the planners and knows what lies for us in future. So, one should learn from such morals as they aid a person during the long journey towards success.

Later he joined DTD&P (Air) as a senior scientific assistant. Kalam’s first major project during his stay in DTD&P (Air) was the making of a hovercraft for military purpose. It was named Nandi. Although the hovercraft was finished ahead of schedule but the project was ceased due to some controversies and criticism. This was no less than a blow.

“ I was unwilling to face reality. I had put my heart and soul into Nandi”

This is how much Kalam was grieved but still he did not lose hope. This is one of the major reasons behind Kalam’s continuous success, never break down or give in rather always search for a silver lining behind every dark cloud. This is indeed a lesson to be learned from because the path towards achieving one’s goals and ultimate success is full of perils, unforgiving hurdles and sacrifices.

The second part, called Creation, it highlights all the major projects that APJ Abdul Kalam took in his life as scientist. The “ Creation” describes next seventeen years till 1980 including all his struggles in the projects which showed India as the next emerging super power in the field of global science and technological advancements. Those projects whether they turned out to be a success or not, surely gave the reader a lot to learn about and helping in revealing the true essence of life which sometimes can be very unforgiving and ruthless. Moreover, it discusses a person by the name of Prof. Sarabhai who was the leader and the founder of Indian science and technology and a key figure rather a fatherly figure in the life of APJ Abdul Kalam as a scientist. Through thick and thin Kalam would always look up to Prof. Sarabhai for advice and in some cases consolation.

The two major projects during Kalam’s stay in ISRO were the Satellite Launch Vehicle (SLV) and the RATO project. But things did not turn out as they were suspected. The SLV failed to reach the orbit and the whole SLV project was brought to a halt after years of countless hours of hardwork and determination invested in the project. The news was traumatic for Kalam as he gave his best in proving the project a success. The best part is that although the project was not pursued, the management still made him retain his former position. This clearly depicts the maturity and the broad thinking of the management. Moreover, the RATO project also was put behind covers as the aircraft, Su-22, for which it was manufactured, was phased out or was declared obsolete by the Indian Air force. But the SLV project sure sketched a new picture of India in terms of science and technology on a global level.

Along with that the “ Creation” is full of poems which Kalam har read throughout his life. They sometimes help in understanding the various situations better as they are presented against a particular event. The deaths of Kalam’s sister was another blow in his life apart from the setback he received by the SLV and the RATO projects respectively. All such painful events made Kalam more determined towards achieving what he dreamt of since he was a little boy.

“ The premature death of my hovercraft Nandi, the abandoning of the RATO, the abortion of the SLV-Diamont fourth stage- all came alive in a flash, like a long buried Phoenix rising from its ashes. Over the years, I had somehow learned to absorb these aborted endeavours, had come to terms with them and pursued fresh dreams. That day, I re-lived each of those setbacks in my deep despondency”

What could be understood from this part of the book is that no matter how miserable the failure is one should continue working because man is unaware of what lies ahead of him, that is the difference or the factor behind a life of a successful individual, never give up rather continue pushing forward. This is exactly what Abdul Kalam did and now the whole world knows what heights he has reached in the field of Indian science and technology.

You may charge me with murder-

Or want of sense

(We are all of us weak at times)

But the slightest approach to a false pretence

Was never among my crimes

A poem for he was leaving ISRO after eighteen years. This shows his feelings towards his people who worked hand in hand with him especially during the SLV years. No matter how far we travel ahead we must not forget the people and the good times of the past.

‘ The third part of the book is entitled “ Propitiation” which covers the next ten years of APJ Abdul Kalam’s life that includes his transfer from ISRO to DRDO and as a next Director to DRDL along with his outstanding accomplishments in ten years. The methods or the ways through which Kalam attained this glory were; firstly, generate technical projects and place them as technological challenges in front of the concerned community, secondly, extract the best people for the right job from the R&D department for advice and help and lastly, hold technical meetings where difficulties or hurdles could be discussed and solutions generated. These methods, which were learnt during his tenure at ISRO, helped Kalam in achieving further accolades and praise.

Abdul Kalam’s time in DRDL also proved to be productive and fruitful for the organistaion. After days of debate and weeks of thinking DRDL saw the making of the “ Guided Missile Development Programme”, which like it says will work for the development of Indian missile technology and hence give it an edge over its neighbouring countries. Kalam came up with the idea of producing missiles each having a respective role. The Prithvi was a ballistic missile, so was Agni, Nag an anti tank missile, Akash a surface to air missile and finally Trishul was a Tactical Core Vehicle. The beautiful thing about this part is tha everything is written, about the missile production, in a peaceful manner without any traces of aggression or such thoughts regarding any country. The purpose of the IGMDP was to give India the self reliance and self capability in the field of missile technology. So, rather than being dependent upon other western or developed nations, the idea was to try producing missiles themselves. After successful launch of these missiles, India had to face severe criticism and technological embargoes. This clearly shows the jealousy and immature thinking on the part of the western nations. In fact, a lesson could be learned from this is that in life one will encounter innumerable people who will try their best to stem your chances of success in life through whatever means possible. This remarkable achievement opened a new chapter in the book of India’s missile development and hence history was written.

The last part of the book is called “ Contemplation”. In this part APJ Abdul Kalam discusses the ideas and thoughts that he learnt in his colourful career. Along with that he gives out advices and messages for the future generation. Moreover, he says that he does not want to set himself as an example to others; this shows whata humble nature he possessed.

I am a well in this great land

Looking at its million of boys and girls

To draw from me

The inexhaustible divinity

And spread His grace everywhere

As does the water drawn from a well.

Wings of Fire is just more than a book it is basically a guideline to all the people irrespective of their profession, sex, age etc. It teaches us the true meaning of life and reveals the constant struggle, sacrifices and hardships which one has to endure in order to rise above others. Along with that, Kalam mentions that apart from consistent sincere hard work, one can only attain great heights only if he is internally or spiritually at peace, and this tranquility could only be achieved through one way, that is direct contact with the Creator.