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DON'T KILL INNOVATION

CHANGING EDUCATION PARADIGM

BUILDING INDIA, A COUNTRY OF INNOVATIONS

1 INTRODUCTION

Human evolution is the lengthy process of change by which people originated from ape-like ancestors. Scientific evidence shows that the physical and behavioral traits shared by all people originated from ape-like ancestors and evolved over a period of approximately six million years.

Similarly, India's education story is rich and interesting and has a long legacy and history. In the ancient days education was imparted orally by the sages and the scholars and the information was passed on from one generation to the other. 'Guru Shishya Parampara' was the prominent system of education that resulted in life long powerful bondage between the teacher and the taught. Schools were mostly the hermitages and cottages of the rishis and the seers. Soon after, the temples and the community centers became the temples of learning.

Later, the ‘Gurukul’ system of education came into existence. The Gurukuls were the traditional Hindu residential schools of learning which were typically in the teacher's house or a monastery. Education in the Gurukul system was free but students from well to do families paid Gurudakshina, a voluntary contribution, after the completion of the course work.

Gurukuls were the knowledge centers that imparted education on the aspects of religion, scriptures, literature, administration, warfare, statecraft, medicine astrology and science etc. Today, this system is acknowledged as one of the best methods of teacher student engagement and interactive teaching learning method. In those days this system was the best one which allowed students to specialize in a particular subject at a very young age and achieve their career goals. Parents admitted their children in a certain gurukul based on the availability of the subject specializations.

The first millennium saw the flourishing of higher education centers at Nalanda, Takshashila, Ujjain, Vikramshila, Pushpagiri and Odantapuri etc. Each university was known for specialized field of study.

Thomas Macaulay laid the foundation of the British education system in India in the 20th century. Although it lacked the core Indian elements, it set the pace for the modern education system in the country. After several

amendments and addition of clauses, the national education policies structured and unified the education system of our country.

The 42nd Amendment to the Constitution in 1976 moved education from the State to the Concurrent List and the 86th Amendment in 2002 made it an enforceable right. There after several initiatives were taken up by different governments to improve the quality of education across the country. Two policies of relevance were published in 1968 and 1986 which was revised in 1992. Education policy of 1986 is considered as the major policy which is the reference document for drafting new policies.

The third policy was drafted in the year 2016 with several amendments and challenging goal posts that if implemented may enhance the education standards all over India. Reforms suggested by the NEP 2016 will ensure the movement of the country towards contributing to “Education for All” agenda.

The country has different education boards in every state which designs the education program for that specific population group based on the socio economic profile of the society. This kind of planning is essential to ensure that children living in different parts of the country access quality education even from the remotest corner.

Diversity in education programs is essential to ensure contextualization of the curriculum to meet the needs of students. Contextualization is necessary to provide the caveat for innovation in design and delivery of the program. This contextualization is missing in our policy documents.

The education model is a failure when the same pattern of challenges and issues surface from schools and learning communities. It simply means that “model” per se was not institutionalized. The state led society schools are a misfit in today’s dynamic world because of a very tight and rigid structure and curriculum. The schools have very little scope for infusing innovation in their systems and processes.

Blanket programs for education may not be the right answer even if they are drafted and implemented for the economically and socially weak section of the society.

Indian schools are different from the kind seen in the rest of the world, obviously because of the culture and dynamic nature of Indian society which cannot ask for a unified pattern based on flimsy assumptions.

All schools in India cannot be the same on the grounds of being in the same sub-continent. Because of the diverse nature of the states and the unique population groups a comprehensive education policy which can adapt to the changing dynamics of the population namely its usefulness is required to make India knowledge superpower as well as an economic superpower.

Indian education policies have gone off track due to several reasons but still can be pulled back to ascertain stupendous results. The policies have to ensure that the education system is standardized giving the scope for innovation within the system.

2 EDUCATION AND INNOVATION: CHALLENGES IN INDIA

Frequent changes in policies that guide the education program of our country are one of the major handicaps in promoting innovation in schools and colleges. The country lacks a cadre of dynamic visionary leaders who can guide and direct national education policies with appropriate resources allocation to implement curricular and co-curricular programs that enable students to achieve higher goals.

In state run schools, leaders are committed to state authority. They cannot devolve and delegate responsibility to encourage collaboration among stakeholders for school improvement. It is challenging for such schools to systematize policies, procedures, and organizational conditions and culture to ensure equity of learning opportunities and support for innovation based on the socio economic profile of the stakeholders because of their adherence to a particular board.

Many school leaders have strong individualistic view points and lack the confidence and skills in planning and implementing a curriculum based on clear and measurable expectations for student learning that provides opportunities for all students to acquire requisite knowledge, skills, and attitudes based on broad guidelines given by the national framework. These leaders therefore cannot be instructional leaders for excellence. In the absence of stalwarts innovative thinking cannot be a common goal for the students and staff.

School leadership does not end at leading the stakeholders to achieve the desired results; it is more of leading the stakeholders who resist almost every initiative of the school with strong antagonistic views and opinions. This will be a common scenario in the near future wherein all stakeholders can lay hands on

the knowledge available on the internet. Innovative thinking cannot thrive in institutions with weak leadership.

Apart from school leaders, committed and competent teachers, the drivers of instructional processes are a rare breed in our country. Dynamic, energetic, and resourceful teachers who can bring a turnaround in the teaching and learning systems to impact students' attainment are exceptional because the teacher education colleges do not prepare them to implement research-based curriculum and instructional methods that facilitate achievement for all students.

Among youngsters who have set out to choose their career and profession, teaching is the last option that is chosen only when the opportunities for other careers are closed. Therefore, enterprising individuals who walk with their ideas on their sleeves are uncommon in the teaching profession. Finding aspiring engineers and doctors in our country is easy but finding an aspiring teacher is difficult. The sops that are attached with teaching profession does not stimulate one's thinking into choosing teaching as a profession.

Indian School Assessment and evaluation system has always been a topic of debate due to its ever changing philosophy. It changes according to the whims and fancies of the people in power due to which India has

always fared miserably in the international assessment tests of PISA and TIMSS.

Almost all the states and the central board have not yet finalized a comprehensive assessment system that monitors and documents student performance and uses those results to improve attainment and progress and school effectiveness.

Deficiency of resources and services necessary to support the education vision of the country adds to the traditional pedagogy methods in the schools. Andhra Pradesh and Telangana have set the precedence for a chain of schools under different banners. These schools are set up in small cage like classrooms without playgrounds.

These shanties of schools have been educating thousands of students every year making them morons of academic scores. The education policies of our country have recognized these schools as temples of learning. When these are acknowledged and showcased as factories that are producing citizens with super scores, the scope for innovation is little.

Then, there is a need for outstanding education agencies for mentoring these schools because the government machinery for monitoring these schools is weak and limited.

Rigid structure, tight time tables and unified curriculum are obstacles in the development of innovative ideas. Small classrooms cannot be the incubators for breaking stereotypes and mind blowing innovations. Several schools that are set up as commercial ventures by business men cannot ignite the intellectual passion of the learners who are waiting to break free from the shackles of ordinariness and "standardization".

Not only Indian, but most of international education systems have shortfall of sufficient human, material, and fiscal resources to implement a curriculum that enables learning in every context and every space. Most eligible, well qualified, and best suited human resources for teaching assignments are not commonly found in all states.

And finally, the loopholes in the system allow one to compromise with the applicable local, state, and national regulations.

3 INNOVATION IN EDUCATION

In business parlance turning an idea into a solution that adds value from a customer's perspective is innovation, this is exactly turning out to be the new buzzword for education businessmen who are setting up schools in almost all available places possible. Innovation in education is not difficult in the Indian context which has millions of students from diverse backgrounds studying in different schools.

The education policies of our country have touched upon few aspects which could be innovative in approach. For reaching the goal of universalization of primary education thousands of schools were set up across the length and breadth of the country. This programme was hailed as one of the best mass programme in the world; the target of enrolling children in the age group of 6- 14 years was achieved. However, the approach was not sustained despite millions being pumped into the programme.

Brainstorming for ideas is relatively easy, fast and cheap, but then those ideas need to be executed. This is where the policies often fail because enough time and resources are not provided for an idea to incubate and sprout as a possible solution.

Indian system does not foster innovation according to Mr. Amitabh Kant, CEO at Niti Ayog. This is true not only at the level of basic education but also at the highest level of research studies. While aping the west, we teach our children “A” for apple and not “A” for “Amul”. When creativity is stifled due to a rigid curriculum, teaching approaches and teachers’ mindset, novel thinking and innovative ideas disappear down the horizon.

4 BUILDING A COUNTRY OF INNOVATIONS

Innovations are not possible in conventional set ups. Creative thinking and creative solutions are possible where challenges, chilling deadlines, cut throat competition and appreciation of individual profile is a matter of mundaneness. This intellectual mundaneness has to be promoted by learning centers even in the remotest corners with human habitation through well planned policies and interventions.

A total revamp of the education system in India has to become inevitable. A single National Education Board should be set up with powers of devolutions to state boards. This board should be totally immune to the influences of the top authority so that policies that were advocated for the national good cannot be discarded when the new boss steps in. Adherence to norms and guidelines is not an excuse to execute in an ordinary way. Even though, school leaders have to adhere to boards they still have opportunities to innovate. These leaders have to lead from front and be passionate about their work. Embracing and implementing change will be much easier when the leaders have clear vision and inner drive.

Research as a skill in the curriculum encourages students at all levels to think beyond boundaries. Lateral thinking has to be developed and nurtured in every child at a very young age. Compliance of students in the form of respect to teachers actually comes in the way of inculcating out of box thinking among them. Our children should be taught to challenge ideas and concepts and raise doubts in everything they do. When children start experiencing discomfort with the set norms it will lead to creative thinking and creative solutions.

Phenomenon based learning sponsored by advanced countries in one of the surest ways of enhancing

creative skills of students. Instead of focusing on school subjects, phenomenon-based learning has to be experimented to facilitate creative thinking among students. This system focusses on actual real-world and interdisciplinary elements, on topics such as the Pollution, global warming and weather challenges etc.

Phenomenon-based learning is a broader way of looking at concepts instead of sticking to school specific subjects. Learning is ensured through a study of actual real-world and interdisciplinary elements and phenomenon such as Mars planet an alternate home for humans, natural disasters, climatic changes, demonetization, economic reforms etc. Phenomenon based learning allow the students to look at the concepts from the futuristic point of view and how their study can improve the sustenance of human kind on planet Earth now and may be other planet in distant future.

Learning starts from the joint observation of comprehensive genuine real-world phenomena by the schools. The observation is not limited to one single point of view; the phenomena are instead studied comprehensively from different points of view, crossing the boundaries between subjects naturally and integrating different subjects and themes. This education model makes it possible even for the children of poorest counties to think of innovative solutions.

In addition to the above, competency based learning should be propagated in the future schools, competencies for the future, 21st century skills such as critical thinking, collaboration, creativity and learning skills are highly essential for developing cultures of learning and innovation. In order to learn these future 21st century skills, students have to participate in processes that require “higher thinking skills” which can be acquired and developed by resorting to practices such as setting goals, maintaining and evaluating their portfolios, self-reflection on their personal attributes etc.

The game changing innovation of 20th century without which the world would be very different is the Digital revolution which has opened up new vistas of learning and innovation. Technology is the most essential tool

for thinking and learning which extends our thinking. Phenomenon-based learning is not possible without digital technology. Technology is the tool for making learning processes visible for reflection and evaluation across schools all over the world, in addition to documenting learning, processing information and searching information. This kind of learning should permeate the education systems across the continents as a natural part of learning and teaching as paper and pen.

Electronic learning materials should replace traditional schoolbooks and other learning material. Experimental thinking will thrive in practical classes and laboratories in which students sit in teams and indulge in pair work or groups work. Learning environments encompass all spaces of learning including school buildings and community centers.

Then learning is no longer limited to traditional classes but finds its source in workshops, seminars, conferences, projects and on-the-job in vocational education.

Apart, incubation centers or innovation centers are regular spots in many schools outside India. These centers are dedicated to the staff and students who wish to think, discuss and experiment new ideas and other path breaking initiatives.

Innovative spirit of students' irrespective of their background is ignited in these centers. Majorly, these centers are initiated and funded by large business houses or funding agencies who have national goals as their key focus area. Majority systems guiding Indian education are mostly archaic belonging to the 19th century. Transition into 21st century technological era needs systems that are current and contemporary.

Innovation is not the privilege of only the rich and smart. Although the high achievers stand a better chance of producing innovative work, the shy and the slow too can spring a surprise with their ingenuity and hard work in later part of their education. There is no better example than Edison who was expelled from school.

Therefore, alternate schools can provide a viable option of educational interventions for the special categories of

those children who cannot access continuous education due to many reasons. Schooling for these children may open up the doors for thinking of alternate and viable solutions for different challenges we face in life.

While cognitive skills are essential for success, life skills education in a technology driven environment is essential to maintain the equilibrium and level headedness among students. Perseverance, consistency in efforts, right attitude, ethical disposition will facilitate an individual's strive towards remodeling and reorganizing.

The above traits can be induced in students at a very young age by imparting life skills curriculum in schools. An inter disciplinary curriculum promoting citizenship education, peace education, character building, legal and constitutional literacy, financial literacy, environmental sustainability etc. will help the students of the world in addressing the issues that shocks the collective conscience of mankind.

Life skills impart independence of thought, right attitude and a strong will and character to work tirelessly to come up with new ideas, theories and solutions. Participation in international projects provides opportunities for students to appreciate global perspective.

Encouraging education entrepreneurs who dream and dare to make changes will go a long way in fostering innovation among youngsters with their ideas and propositions. Unless these young entrepreneurs are encouraged the much touted start up movement will not succeed. Capacity of these entrepreneurs should be utilized by the national mission organization by investing in e resources which are the avenues of learning, experimenting and failing.

Innovation has always been aimed in the fields of technology and science. Millions are pumped every year by governments all over the world in the search of the unknown. However, the same prominence is not given to the subject of arts and humanities because there is no equivalent understanding of innovation in the arts. The subject lacks rigorous definitions of R&D in the arts. It is very difficult in the absence of set norms to invest in innovation in arts and humanities. Therefore, these fields should also be given equal importance at par with science and technology.

The world is changing rapidly. The children of present generation need innovations from ground-up. Therefore investments in innovations should shoot up. Innovation enhancement has to become the national agenda and all concerned should talk about it in every forum. Unless this seed of thought permeates the fabric of a nation's schooling system, discoveries and

innovations will come only from the advanced and highly developed neighboring countries.

A global knowledge society that invests on human intelligence to mitigate the miseries of the human population should be a mix of citizens from different parts of the world. Innovations created by teams that represent different races and gender will be unparalleled.

Innovation is an achievement when it benefits the entire mankind cutting across continents and nations. Emphasis on innovative solutions that address the global issues of pollution, life threatening diseased and global warming etc. are more significant than innovating the design of tanks and Kalashnikovs that can wipe out human civilization from the face of earth.