

Innovative Oriented Initiatives in Higher Education

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Abstract

Education is for removing ignorance in the human mind, leading a person from darkness to light and making him realize that he/she is a soul of infinite purity and tremendous power. Educate, encourage and enlighten is the theme for National Education Policy 2019. India's First Leadership Talk Series, Smart India Hackathon, Startup Policy for Students and Faculty are some of the innovative initiatives taken up by the Ministry of HRD. This paper highlights the innovative oriented initiatives taken up by the Government of India on higher education, their impact on Indian economy and also gives suggestions on improving the education initiatives in India.

Keywords: Leadership Talk Series, Hackathon, Startup Policy

Education is for removing ignorance in the human mind, leading a person from darkness to light and making him realize that he/she is a soul of infinite purity and tremendous power. It is education alone which makes the students reach their highest potential and takes the country to the top of the world. As education is such an important aspect to be dealt with, the Government of India has been taking many measures to improve the current state of education in India and so passed the Education Policy 2019 and stressed on innovative methods of pedagogy.

Vision of the National Education Policy 2019 – “The National Education Policy 2019 envisions an India-centered education system that contributes directly to transforming our nation sustainably into an equitable and vibrant knowledge society, by providing high quality education to all.” The Policy envisions a joyful, rigorous and responsive curriculum, engaging and effective pedagogy, and caring support to optimize learning and the overall development of students. The Policy says that Choice Based Credit System is to be revised and improved to allow for flexibility and innovation. Stimulating learning experiences should be offered through effective pedagogical practices.

Innovative oriented initiatives in Higher Education help the students in thinking out of the box, help them come out with new ideas and explore the world. Benjamin Franklin says, “Tell me and I forget. Teach me and I remember. Involve me and I learn.”. This involvement of students in the teaching-learning curriculum makes them learn and this forms the foundation for innovative oriented initiatives in higher education.

Thoughts on Innovative Teaching and Learning by Esteemed Professionals

The application of innovative teaching and learning methods is critical if we are to motivate and engender a spirit of learning as well as enthusiasm on the part of students, for learning while at universities and indeed for lifelong learning. The role of education is to ensure that while academic staff do teach, what is taught should also be intelligible to students emanating from culturally and linguistically diverse backgrounds and that they rapidly become familiar with the expected standards. Innovative teaching and learning methodologies such as short lecture, simulation, role-playing, portfolio development and problem-based learning (PBL) are very useful in addressing the rapid technological advances and developing workplaces that will be required in the foreseeable future. - ALIKI NICOLAIDES, Vaal University of Technology.

There are four main outcomes of innovation emerge in higher education. They are (i) the vision behind the use of new technologies represent enablers of innovative practices, rather than innovations per se; (ii) the use of new technologies appears to be a facilitator of the transition from a department-centered vision to a student-centered vision of education; (iii) innovation often stimulates an accelerated development of partnerships between Higher education institutions and other organizations, especially businesses; (iv) innovations in higher education illustrate well two general key aspects of the innovation process: 'doing new things' and 'doing existing things better'. - DIANE BOOTHE & MELISSA CASPARY.

Higher education environment is on the verge of profound changes by imagining an evolving and agile problem-based learning ecology for learning. The goal of doing so is to humanize university education by pursuing innovative approaches to student learning, teaching, curricula, assessment, and professional learning, and to employ interdisciplinary methods that go far beyond institutional walls and include student development and support, curriculum sustainability, research and the scholarship of teaching and learning, as well as administration and leadership. An agile problem-based learning (PBL) ecology for learning deliberately blurs the boundaries between disciplines, between students and teachers, between students and employers, between employers and teachers, between academics and professional staff, between formal and informal learning, and between teaching and research. It is based on the recognition that all of these elements are interconnected and constantly evolving, rather than being discrete and static. - MEGAN YIH CHIN A.KEK, HENK HUIJSER

Innovative Oriented Initiatives taken by Government in Higher Education

Ministry of Human Resource Development (MHRD), Govt. of India has established 'MHRD's Innovation Cell (MIC)' with a purpose of systematically fostering the culture of Innovation in all Higher Education Institutions (HEIs) across the country.

The primary mandate of MIC is to encourage, inspire and nurture young students by supporting them to work with new ideas and transform them into prototypes.

MIC has envisioned encouraging creation of 'Institution's Innovation Council (IICs)' across selected HEIs. A network of these IICs will be established to promote

innovation in the Institution through multitudinous modes leading to an innovation promotion eco-system in the campuses.

Functions of IICs

- To conduct various innovation and entrepreneurship-related activities
- Identify and reward innovations and share success stories.
- Organize periodic workshops/ seminars/ interactions with entrepreneurs, investors, professionals and create a mentor pool for student innovators.
- Network with peers and national entrepreneurship development organizations.
- Create an Institution's Innovation portal to highlight innovative projects carried out by institution's faculty and students.
- Organize Hackathons, idea competition, mini-challenges etc. with the involvement of industries.

A series of activities were organized by the MHRD's Innovation Cell and they had a great impact on the youth of the country. Some of them are:

- 1) **India's First Leadership Talk Series:** A leader is one who inspires and transforms the society. Great leaders show the way and take all along their way. A series of leadership talks to inspire the youth were organized. The eminent speakers were Shri Anand Mahindra (Chairman, Mahindra Group), Dr. Anand Deshpande, Shri Ajit Doval, Prof Anil D Sahasrabudhe, Dr. Ramesh Pokhriyal 'Nishank', (Minister of HRD, Government of India). Behind every successful person, there is an untold story of hardship and suffering. These talks by the leaders on their personal as well as professional front have inspired the youth of the country and made them believe that they too can become great leaders one day.
- 2) **Smart India Hackathon:** Smart India Hackathon is a nationwide initiative to provide students a platform to solve some of the pressing problems we face in our daily lives, and thus inculcate a culture of product innovation and a mindset of problem solving. The last edition of the hackathon in 2019 saw over 5 million+ students from various colleges compete for the top prize at 65+ locations. In SIH 2020, the students would have the opportunity to work on challenges faced within various Ministries, Departments, Industries, PSUs and NGOs to create world class solutions for some of the top organizations including industries in the world, thus helping the Private sector hire the best minds from across the nation. It can help to harness creativity and expertise of students and provides opportunity to citizens to provide innovative solutions to India's daunting problems.
- 3) **National Innovation and Start up Policy 2019 for Students & Faculty:**
The National Innovation and Start-up Policy 2019 intends to guide HEIs to promote student driven innovations and start-ups and to engage the students and faculty in innovation and start up activities in campus. The policy aims at enabling HEIs to build, streamline and strengthen the innovation and entrepreneurial ecosystem

in campus and will be instrumental in leveraging the potential of science, student's creative problem solving and entrepreneurial mind-set, and promoting a strong intra and inter-institutional partnerships with ecosystem enablers and different stakeholders at regional, national and international level.

Also, PM's Research Fellowship is aimed at attracting the talent pool of the country to doctoral (PhD) programs of Indian Institutes of Technology (IITs) and Indian Institute of Science (IISc) for carrying out research in cutting- edge science and technology domains, with a focus on national priorities. Further, a research grant of Rs 2 lakh each will also be provided to the fellows for a period of five years to cover their foreign travel expenses for presenting research papers at international conferences and seminars.

Impact of Innovative Oriented Initiatives on Higher Education in India:

India has already been improving on global stage in terms of Innovation ranking from 86th place, 5 years ago, to 52nd place this year. Our Prime Minister of India has declared decade 2010-20 as the 'Decade of Innovation', to unleash the creative potential of every Indian. The Government of India has taken many innovative oriented initiatives on higher education and most of these programs met success.

The Leadership Talk Series by eminent leaders continues to inspire the youth of the country and prepares the future leaders of the country. The first three Smart Hackathons SIH2017, SIH2018 and SIH2019 proved to be extremely successful in promoting innovation, out-of-the-box thinking in young minds, especially engineering students from across India. Also, the entrepreneurial ecosystem in HEIs played a key role in identifying, mentoring, nurturing innovative and entrepreneurial potential of students, faculty and staff and transformed them into start-up entrepreneurs by provided avenues of funding, investment opportunities and networking support to make the innovation and venture successful.

So, we see that there is a great impact of innovative oriented initiatives taken by the Government on higher education in India.

Innovative Initiatives from Reputed Educational Institutions

Education is a very powerful instrument for social change and transformation and innovative teaching practice is the only way to enhance the quality of education. Hence, academics are required to be innovative as they teach new skills as well as to equip students to be able to face the global challenges of the 21st century.

Innovative teaching and learning methodologies such as short lecture, simulation, role-playing, portfolio development and problem-based learning (PBL) are very useful in addressing the rapid technological advances and developing workplaces that will be required in the foreseeable future.

Greenville's Center for Manufacturing and Innovation (CMI) builds on an educational partnership with Clemson University and is strongly supported by area manufacturers. This innovative curriculum features project-based learning experiences on real-world projects. Programs are flexible and customizable, allowing students to

find their unique place in advanced manufacturing. The CMI offers machine tool tech, CNC machining, mechatronics, and much more.

Top technological and management institutions like IITs and IIMs are increasingly trying to institutionalize the process of innovation. Institutes like the IIMs at Ahmedabad, Kolkata and Bangalore, the IITs at Kanpur, Mumbai and Delhi, as much as the IISc in Bangalore, are setting up centers which will help bring innovative ideas to the market.

The major area of activity at the Centre for Innovation , Incubation and Entrepreneurship at IIM-Ahmedabad (CIIE-IIMA) lies in incubation, research and training, organizing workshops and seminars, and providing the expertise of research scholars, CIIE at IIM-A was set up as a collaboration between the National Innovation Foundation (NIF) and IIM-A. Other IIMs have been close to follow. There is the NS Raghavan Centre for Entrepreneurial Learning (NSRCEL) in IIM-Bangalore set up in 1999 with a Rs 8.5-crore endowment grant from NS Raghavan, one of the co-founders of Infosys Technologies.

In case of IIM-Calcutta, activities on innovation and entrepreneurship are more practical and driven by students along with faculty advisors. IIM-C entrepreneurship cell holds one of the biggest business plan contests in Asia, Ideas to Implementation with Yale University's Yale Entrepreneurial Society (YES).

These partnerships and centers are also coming up in technical schools as much as in business schools. Notable names are the Technology Business Incubation Unit in IIT-Delhi, the SIDBI Innovation and Incubation Centre in IIT-Kanpur, and the Society for Innovation and Development (SID) at the Indian Institute of Science Bangalore, one of the oldest such centers in the country.

In fact, SID-IISc's notable achievement is a project called SUTRA (Sustainable Transformation of Rural Areas) where it used non-edible oils from indigenous neem trees as a substitute for fuel generation. Obviously, many ideas are going into solving the problems of rural poverty.

Indian Institutes of Management (IIMs) are revamping their courses and even the pedagogy for the class of 2019-21, as they seek to make those more industry-relevant. The incoming batch can expect more role plays, live projects, experiential learning through outbound activities and interactive teaching sessions with not just faculty members but also people from industry. IIMs will have courses on emerging technologies like artificial intelligence and machine learning to become more popular with students. In 2018, IIM-Kozhikode introduced a course called Leadership 4.0 and those on the dynamics of machine learning and AI. IIM Kozhikode is tweaking its pedagogy by focusing more on making learning more application-driven. The teachers there want to take the courses out of the classroom. IIM Bangalore is also making increased use of innovative methods, to teach management students through pedagogical tools that include simulation games, flip-classes and in-class roleplay exercises.

Across the IIMs, students are getting more drawn towards analytics and analytics-based courses like data mining and predictive analysis, digital marketing courses, courses in strategy like simulations. In the last two years, IIM-Ahmedabad added courses in data analytics, big data, business analytics, bitcoin, Internet of Things and behavioral finance. They follow a case-study approach, predominantly and have also added experiential learning, live projects and field work.

Suggestions for Betterment of Education and Development Programs:

Though there are many initiatives taken by the Government with respect to innovation in Higher Education, still the following measures can be taken to better the present higher education system in India.

- 1) With respect to curriculum, students should be taught the latest technologies and should be updated with the recent happenings or innovations happening across the world. Most of the students are not aware of the latest happenings or innovations in the industry and so knowledge of the latest inventions or happenings should be made mandatory in the curriculum. Curriculum should be updated from time to time based on the latest technologies and changes.
- 2) Though the Government of India conducts Smart India Hackathons start up policies, only some students participate and most of the students are not aware of these programs. So, the initiatives taken by the Government of India to encourage talent must be made aware to the students and faculty of all institutions across India.
- 3) Education must be practical. Government and people must encourage industry – institute interaction. Students should spend some time in the industry and discuss the practical problems in the industry and must be given a chance to suggest solutions to the problems faced by industries and society.
- 4) Most of the teaching learning process should be based on case study and problem-oriented discussions. A presentation by the students on the subject helps them to involve in the class rather than being mere spectators when taught.
- 5) Students in India should be made to interact with students and faculty from foreign countries too to understand the happenings in the world and to make them globally competent.
- 6) Higher education institutes should be tied up with industries which help the students in creative learning and gaining practical exposure.
- 7) Also, there should be international collaborations with the higher education institutions and this would help the institutes to produce global leaders which is the need of the hour.
- 8) Inspiring lectures by women leaders too should be organized and this would help more women to participate and involve in the development of the country.
- 9) Also, it is said and proved that meditation is the mother of creativity and if a person meditates regularly, it helps him/her in coming out with creative solutions and also helps in overall personality development. So, students should be taught the practice of meditation and spiritual practices to reach their highest potential.
- 10) Life transforming speeches by Swami Vivekananda, Mahatma Gandhi, Abdul Kalam and other great leaders should be made available to the students and this would make them have faith in themselves and with this faith in themselves, great ideas which revolutionize the world will come from their minds and hearts.

Conclusion: The future of the country lies in the hands of the youth and education plays an important role in shaping the youth. It is the duty of the Government, higher institutions and faculty to see that the youth of India reach their highest potential and become torch bearers to the world. Education with innovation should be made

available to the students and they should be able to carve a niche for themselves. The youth of India should arise, awake and stop not till they take India to the top of the world and this would happen through innovation alone.

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