



केन्द्रीय माध्यमिक शिक्षा बोर्ड

(शिक्षा मंत्रालय, भारत सरकार के अधीन एक स्वायत्त संगठन)

CENTRAL BOARD OF SECONDARY EDUCATION

(An Autonomous Organisation Under the Ministry of Education, Govt. of India)



CBSE/DIR./SE&T/NIEPP/2022

31.03.2022

NOTIFICATION

Inviting opinion and feedback on the National Innovation and Entrepreneurship Promotion Policy (NIEPP)

The National Education Policy 2020 has a big focus on innovation as a tool for revamping the educational system. The need for quality improvement in the curriculum and the desire to equip students with 21st century competency skills has brought innovation at the core of the educational ecosystem. Hence, school culture that support innovation should be developed and encouraged extensively. Pedagogical practices should be geared towards teaching children to think in ways that lead to innovation. Forming attitudes that are constructive to learning instead of test taking, should be the goal of every school.

In view of this, CBSE along with the Ministry of Education's Innovation Cell has developed guidelines for schools for promotion of Innovation and Entrepreneurial skills in students, titled 'National Innovation and Entrepreneurship Promotion Policy (NIEPP)'.

It has been desired by the Competent Authority that feedback may be obtained from various stakeholders prior to the release of this policy/guidelines for implementation in all schools across the country.

Thus, all the schools affiliated with the Board must go through the attached NIEPP and give their feedback using this link: <https://forms.gle/QtbDY3WKcEbu4D1m6>

The link shall be operational and accepting feedback till 20th April 2022, 5:00 PM.

All affiliated schools must participate and share their opinions/feedback on this document.


(Dr. Biswajit Saha)

Director (Skill Education and Training)

Encl: The final draft of the National Innovation and Entrepreneurship Promotion Policy (NIEPP)



'शिक्षा सदन', 17 राऊज़ एवेन्यू, इंस्टीटूशनल एरिया, नई दिल्ली-110002
'Shiksha Sadan', 17, Rouse Avenue, Institutional Area, New Delhi – 110002





केन्द्रीय माध्यमिक शिक्षा बोर्ड

(शिक्षा मंत्रालय, भारत सरकार के अधीन एक स्वायत्त संगठन)

CENTRAL BOARD OF SECONDARY EDUCATION

(An Autonomous Organisation Under the Ministry of Education, Govt. of India)



Copy to the respective Heads of Directorates, Organizations and Institutions as indicated below with a request to disseminate the information to all the schools under their jurisdiction:

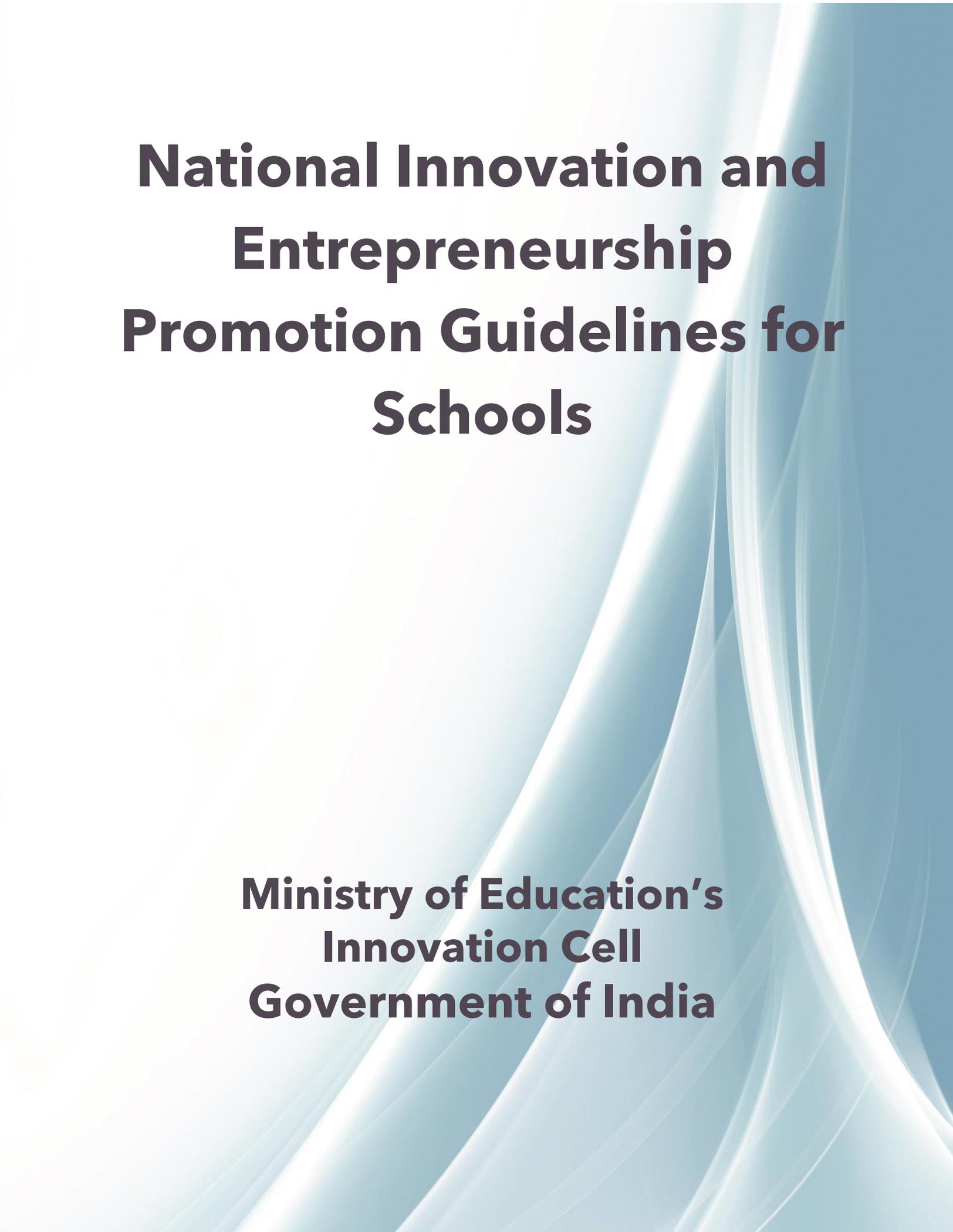
1. The Commissioner, Kendriya Vidyalaya Sangathan, 18, Institutional Area, Shaheed Jeet Singh Marg, Delhi - 110016.
2. The Commissioner, Navodaya Vidyalaya Samiti, B-15, Sector-62, Institutional Area, Noida - 201309.
3. The Director of Education, Directorate of Education, Govt. of NCT of Delhi, Old Secretariat, Delhi - 110054
4. The Director of Public Instructions (Schools), Union Territory Secretariat, Sector 9, Chandigarh - 160017
5. The Director of Education, Govt. of Sikkim, Gangtok, Sikkim - 737101
6. The Director of School Education, Govt. of Arunachal Pradesh, Itanagar - 791 111
7. The Director of Education, Govt. of Andaman & Nicobar Islands, Port Blair - 744101
8. The Director, Central Tibetan School Administration, ESSESS Plaza, Community Centre, Sector 3, Rohini, New Delhi
9. The Secretary, Sainik Schools Society, Room No.101, D-1 Wing, Sena Bhawan, New Delhi- 110001
10. The Additional Director, General of Army Education, A – Wing, Sena Bhawan, DHQ, PO, New Delhi – 110001
11. The Secretary, AWES, Integrated Headquarters of MoD (Army), FDRC Building No. 202, Shankar Vihar (Near APS), Delhi Cantt – 110010
12. The Secretary, Eklavya Model Residential Schools (EMRS), Ministry of Tribal Affairs, Government of India.
13. The Chairman, Odisha Adarsha Vidyalaya Sangathan, N-1/9, Near Doordarshan Kendra, PO Sainik School Nayapalli, Bhubaneswar, Odisha-751005.
14. The Deputy Secretary to Chairman, CBSE - for kind information of the Chairman, CBSE
15. All the Heads of Department of the Board.
16. All the Regional Directors/Regional Officers/Head-COEs, CBSE with the request to send this circular to all the Heads of the affiliated schools of the Board in their respective regions for compliance.
17. Head (Media & Public Relations), CBSE
18. Assistant Secretary (IT), CBSE, Rouse Avenue with the request to upload this notification on the CBSE Academic website.
19. Incharge, Hindi Cell, CBSE HQ – for Hindi Translation of this notification.

Director (Skill Education and Training)



‘शिक्षा सदन’ ,17 राऊज़ एवेन्यू ,इंस्टीटूशनल एरिया, नई दिल्ली-110002
‘Shiksha Sadan’, 17, Rouse Avenue, Institutional Area, New Delhi – 110002





National Innovation and Entrepreneurship Promotion Guidelines for Schools

**Ministry of Education's
Innovation Cell
Government of India**

CONTENT

1. Introduction
2. Pillars of Ideation, Innovation and Entrepreneurship (IIE)
 - i. Mindset Change, Awareness and Training
 - ii. Infrastructure and Mentoring to Nurture Innovations
 - iii. Incentivising and Encouraging Teachers
 - iv. Pedagogical Innovations
 - v. Collaborative Partnership- School- Community
 - vi. School Entrepreneurs Led Startups
3. Stage specific measure
 - i. Foundational Stage
 - ii. Preparatory Stage
 - iii. Middle Stage
 - iv. Secondary Stage
4. Enabling mechanism for Policy Implementation

Glossary

Introduction

The world is undergoing rapid changes in knowledge landscape. With various dramatic scientific and technological advances, the kind of jobs that will become mainstream in future is difficult to predict. To flourish in such rapidly evolving employment landscape, young students will need key skills like creativity, innovation, empathy, problem solving, team work, strategic thinking, entrepreneurship as well as learning to accept failures as a part of their development process.

Considering the fact that India aims to become a superpower backed by robust economic growth, we have to instill a culture of innovation and entrepreneurship in our education system beginning from the school level itself. An innovation and entrepreneurship focused education will play a central role in developing crucial life skills and prepare students for a life beyond classrooms.

The education system in the 21st century must promote innovation while revamping the traditional educational system. The need for quality improvement in the curriculum and the desire to equip students with 21st century competencies has brought innovation at the core of the educational ecosystem. Hence, school culture that support innovation should be developed and encouraged extensively. Pedagogical practices should be geared towards teaching children to think in ways that lead to innovation. Forming attitudes that are constructive to learning instead of test taking should be the goal of every school and the educational system.

The National Education Policy 2020 lays particular emphasis on the development of the creative potential of each individual.

The curricular and pedagogical structure of school education will be reconfigured to make it responsive and relevant to the developmental needs and interests of learners at different stages of their development, and will therefore be guided by a 5+3+3+4 design, consisting of:

- Foundational Stage (in two parts, that is, 3 years of Anganwadi/pre-school + 2 years in primary school in Grades 1-2; both together covering ages 3-8),
- Preparatory Stage (Grades 3-5, covering ages 8-11),
- Middle Stage (Grades 6-8, covering ages 11-14), and
- Secondary Stage (Grades 9-12 in two phases, i.e., 9 and 10 in the first and 11 and 12 in the second, covering ages 14-18).

It is against this backdrop that the 'National Innovation and Entrepreneurship Promotion Policy for Schools' for learners, faculty and institutions is being launched. The policy guides school education systems on various measures that may be adopted to promote a learning environment where creativity, ideation, innovation, problem solving and entrepreneurship skills of students are nurtured, irrespective of their age.

There are six pillars under which specific actions can be taken at each stage of learning, from pre-school to higher education, to promote Ideation, Innovation and Entrepreneurship (IIE) in school education ecosystem. Specific sets of skills and values across domains will be identified for integration and incorporation at each stage. Curriculum frameworks and its transaction will be developed for ensuring that these skills and values are imbibed through engaging processes.

Pillars of Ideation, Innovation and Entrepreneurship (IIE)

I. Mindset Change, Awareness and Training

- i. **National Education Policy 2020:** The NEP 2020 fosters a new teaching-learning methodology that employs innovative tools and techniques to make the education experiential, holistic, integrated, learner-centered, inquiry driven, discovery-oriented, discussion-based, and flexible. The fundamental purpose of this paradigm shift is to facilitate the learners to inculcate the 21st Century skills that would enable them to stride ahead with grit and positive spirit. It also endeavors to create a pedagogy that invokes a problem-solving approach and out-of-the-box thinking and encourages youngsters to emerge as individuals with discerning minds and firmness in decision-making.
- ii. **Include innovation in annual pedagogical planning:** The fundamental requirement for adopting a change in processes is a change in mindset. To nurture students' creativity, need for a change in outlook of the school environment must be reflected in school policy. School must acknowledge that without creation of awareness, such a change cannot be achieved. School shall aim to promote Ideation, Innovation and Entrepreneurship (IIE) mindset in school as one of the major objectives while undertaking annual pedagogical planning. To achieve it,

schools should set up specific objectives with tangible outcomes which are achievable within specific timelines.

- iii. **Awareness generation:** By spreading awareness on IIE Agenda, students & teachers will become aware about the importance of IIE in education and its role in nurturing students' creativity.
- iv. **Stage-wise integration:** School shall introduce the concepts of ideation, innovation & entrepreneurship to students in the Preparatory Stage (Grades 3-5) and integrate the same with curriculum topics as students progress to Middle Stage (Grades 6-8) and Secondary Stage (Grades 9-12).
- v. **Involving parents:** IIE agenda of the school must also be communicated to the parents during annual parents-teachers' meet. Parents serve as the first teachers of their children during early years; therefore, they can play an important role in making students aware about how useful learning can be in shaping them as an individual and in developing entrepreneurial traits.
- vi. **Community participation:** Creation of awareness shall not be limited to school boundaries or parents, rather school should actively work to ensure that all students, irrespective of their socio-economic background, gender, location & physical disability, are able to thrive in the education system. To extend its reach to unserved communities, school may engage volunteers, NGOs and community centers.
- vii. **Building teacher capacity:** Handholding of teachers is crucial for the successful implementation of the

programme. Teacher trainings will be administered through the School Innovation Ambassador Training Programs for teachers, conducted by Ministry of Education's Innovation Cell (MIC).

- viii. **Tool Kit of Innovation for Students & Teachers:** This toolkit shall be created and published by school on its website. The Tool Kit shall include all the pedagogical methods developed or adopted by teachers of the school along with anticipated positive impacts that it can have on developing entrepreneurial traits in student.
- ix. **Measurement:** Schools shall be ranked based on the level of innovation oriented activities undertaken. Every year best performing schools in this ranking will be felicitated nationally which shall develop healthy competition among schools. The ranking indicators for schools should be able to determine the readiness of the schools for innovations.

II. Infrastructure and Mentoring to Nurture Innovations

- i. **Infrastructure in schools/clusters:** Infrastructure in the form of innovation lab, rapid prototyping labs, additive manufacturing labs, 3D printing labs, makers' space, tinkering labs, pre-incubation center, digital libraries etc. will help nurture creative skills among students.
- ii. **Providing access:** School shall endeavour to instill inquisitiveness and foster creativity in students by providing access to required infrastructural facilities

either through infrastructure development or through collaborative partnerships with external stakeholders.

- iii. **School guidelines for access:** Innovation labs of a school must also be accessible to nearby schools' students & teachers. Schools should develop guidelines on how nearby schools can have access of its infrastructure for nurturing their students and these guidelines must be available on school's website.
- iv. **Outreach for access:** In case the school doesn't have such specific infrastructure of its own, it may approach educational and research institutions in the vicinity with such an infrastructure available at their campus, to facilitate access for its students.
- v. **Integrating innovation with curriculum:** All the activities performed in innovation lab must be blended and mapped with learning objectives of various subjects and also resources available in the school. The demonstration of such activities may be given by teachers in their regular classrooms.
- vi. **Resourcing for innovation:** Apart from ensuring infrastructure access within or in the vicinity, schools may allocate adequate fund ('Innovation Fund'), wherever possible, from their annual budget for organizing IIE related activities.
- vii. **Mentoring facilities:** Apart from infrastructure, funds and access to facilities, school must tie-up with mentors who will guide the students and play a role in inculcating a spirit of curiosity among students. Mentors may be from with-in school or may be invited from nearby schools,

higher education institutes, corporates, local entrepreneurs, student alumni, and experts from innovation ecosystem.

III. Incentivizing and Encouraging Teachers

- i. **Context:** According to NEP 2020 'creativity and critical thinking to encourage logical decision-making and innovation' is one of the fundamental principles that will guide both the education system at large, as well as the individual institutions within it. Teachers are the drivers of innovations in the schools and hence, to promote the culture of innovation in schools, it is also emphasized that teachers will be given continuous opportunities for self-improvement and to learn the latest innovations and advances in their professions. Educational leadership is the most important internal factor of a school, to bring in this culture of change.
- ii. **Opportunities for upskilling:** School shall provide opportunities to teachers for up-skilling and getting training & exposure in IIE. Teachers may be provided financial support, wherever possible, to undertake certificate/diploma or other courses in relevant subjects for their professional development.
- iii. **Identification of interested teachers:** School shall also identify teachers with either prior exposure or interest in leading IIE related agenda in schools and assign responsibilities to them to promote IIE agenda at school level.

- iv. **Facilitative environment for teachers at school:** School shall encourage teachers to familiarize themselves, experiment and design pedagogical techniques aimed at nurturing creativity in students. School shall encourage teachers to explore exchange programs, faculty development programs like MOOCs, internships in teaching etc.
- v. **Using DIKSHA:** School shall organize frequent goal-oriented trainings for teachers and encourage them to undertake relevant teacher training courses on the Digital Infrastructure for Knowledge Sharing (DIKSHA) portal.
- vi. **Use of technology in classroom transactions:** In order to drive adoption of digital technologies by teachers, school must promote the use of information and communication technology tools like online teaching, interactive whiteboard etc.
- vii. **Activities in schools:** IIE enabling activities like teacher trainings, organizing events, providing scholarships to bright students, purchasing EdTech solutions, supporting development of creative learning methods by teachers, funding innovative projects, developing prototypes/products and securing Intellectual Property Rights of student/teacher innovations shall be organized by School.
- viii. **Awards:** The schools and its teachers exhibiting best practices and efficiently adopting IIE Agenda will be recognized through institutional awards including MoE's Innovation Cell Awards.

IV. Pedagogical Innovations

- i. **Sensitise in induction training:** School should conduct an induction program for students and teachers every year and sensitize them about the IIE agenda of the school, opportunities and support system, various events and activities hosted by school as well efforts made by school to nurture innovative minds.
- ii. **Innovative pedagogy to support innovations:** In place of traditional lecture-based delivery, cross disciplinary and experiential learning must be introduced by schools. This will enhance learning experiences by instilling a sense of discovery and the spirit of enquiry in students.
- iii. **Blended teaching-learning:** Schools must allow blended learning experiments by teachers in classroom through implementation of flipped classroom model, lab-based models, etc.
- iv. **Promote problem-solving pedagogy:** To inculcate risk taking attitude and learning from failures, exercises/activities promoting problem solving, reflection and resilience shall be undertaken in school.
- v. **Pedagogies to respond to change:** The innovative pedagogical interventions adopted by school must be constantly reviewed and modified as per changing requirements.

V. Collaborative Partnership- School & Community

- i. **Collaboration for exposure to students:** The school may enter into collaborative agreements with the nearest innovation labs, science parks, business incubators, higher education institutes/ Institution's Innovation Council (IIC), professional bodies/firms, micro, small and medium-sized enterprises (MSMEs), social enterprises, Government sponsored Incubators and Scientific Labs (like ISRO, CSIR, DRDO, DIO) etc. to provide diverse exposure to its students and teachers.
- ii. **Collaboration with IIC:** School shall engage with nearby Higher Educational Institutes that have enrolled under Institution's Innovation Council (IIC) program launched by MoE's Innovation Cell (MIC). School shall endeavour to implement the best practices of IIC program for fostering a culture of Innovation & Entrepreneurship (I&E) in the school.
- iii. **Collaboration for mentorship:** The collaboration may also be done to help the students and student founders with mentorship opportunities. School may also consult social entrepreneurs for design and delivery of content meant for teachers' professional training.
- iv. **Exchange with partners and ecosystem enablers:** To facilitate the knowledge exchange and co-creation, school must ensure that students and teachers are not limited to the school boundaries, but a constant exchange is happening with the partners and ecosystem enablers.

This exchange could be facilitated by allowing students of the school to participate in the IIE related events.

- v. **Assess and review collaboration:** School must also assess the impact of such collaborative efforts on the IIE culture of the school using well defined evaluation parameters.
- vi. **Leverage Startup India Initiative:** Schools may leverage the resources made available by Startup India Initiative. Schools can create their profiles on Startup India platform to collaborate with the ecosystem for the following purposes:
 - Establishing connects with ecosystem enablers - incubators, mentors, investors
 - Showcasing innovations and startups by students and faculties on their profiles
 - Hosting events through the application management system

VI. School Entrepreneurs Led Startups

- i. **School committee:** The school must set up a committee or assign an already existing committee with a role of identifying best innovations for which the school can facilitate pre-incubation or incubation infrastructure and services either at its own center or at a nearby location. Such committee should consider all important aspects such as innovativeness, value proposition, market

research and team capabilities, before giving a go-ahead for the next step.

- ii. **Support students with exceptional innovative projects:** In case the school has a pre-incubation and incubation center, it must be accessible to the selected students and teachers with exceptional innovative projects. School shall endeavour to provide space, infrastructure and mentorship support as desired by these students & teachers.
- iii. **Enabling strategy for the startups:** On case-to-case basis, product design to market entry strategy of the startups incubated by school should be developed. Such facilities may or may not be a separately registered entity or Special Purpose Vehicle (SPV). (Refer section '*Enabling mechanism for Policy Implementation*' for further details)
- iv. **Sharing approach for startups:** Through pre-incubation/ incubation units, the school can offer mentoring and other services to startups, in-return for fees, share in equity and/ or zero payment basis for mutually acceptable time-frame.
- v. **Students equity share:** School's SPV may take an equity share in a student or teacher led startup. The equity percentage of school's equity may be in range from 2% to 9.5% in such startup, in return of the facilities and services provided. The equity shall be decided based on the contribution of teachers and school in terms of time, infrastructure, mentorship, support for IP protection, legal matters, facilitating market research or use of intellectual property partially or jointly owned by school, seed funds

contribution, startup registration, developing business plan, etc. In case of startups in which faculty is one of the founder, the percent equity of school will be within the limit of 20% of equity of the teacher drawing full salary from the school. However, this equity percentage of schools should be within an upper cap of 9.5%. Eg. In case of faculty and student led startup with an equity share of 40%, equity share of school's SPV will be 8%. However, in case of faculty and student led startup with an equity share of 60%, equity share of institute will be 9.5%. (Refer Page 27 for further examples of percentage shares that may be taken by School's SPV)

- vi. **Teachers equity share:** In case of innovation jointly developed by the students and teachers, teachers can also take equity in the school start-ups with no restriction on its share and can have an advisory or consultative role. However, the teacher must ensure that not more than 20% of their school hours are spent on the startup related activities and they don't compromise with their existing academic or other responsibilities assigned by the school.
- vii. **Teacher leave policy:** In case the teacher holds the executive or managerial position for more than three months in a startup, then they should avail sabbatical without pay or take earned leave.
- viii. **Intellectual Property rights:** In case of innovations developed by students and teachers using facilities, funds and services availed from the school, the IP rights may be jointly owned by student and/or teacher inventors, as the case may be and the school incubator. In such cases, school should provide support for filing of IP. In case of an

IP owned by the school wholly or partially, licensing of IPR may also be allowed by the school to student and/ or teacher willing to pursue that innovation, on easy terms, either in terms of equity and/ or license fees and/ or royalty.

- ix. **Licensing to other organisations:** In case jointly owned IP, student and school incubator may together license it to other commercial organizations in exchange of license fees comprising of one or more of one-time upfront fees, royalty, equity shares.

Stage Specific measures

The following action points are in addition to the aforementioned six pillars.

I. Foundational Stage (Pre-school & Grades 1-2)

- i. **Pedagogy:** Education must promote how to think critically and solve problems, how to be creative and multidisciplinary, and how to innovate, adapt, and absorb new material. Pedagogy must evolve to make education more experiential, holistic, integrated, learner-centred, flexible and enjoyable.
- ii. **Activity-based teaching learning:** Several such exercises to be undertaken in the classroom focusing on major aspects including - pre-literacy skills (e.g., letter recognition and correlation to letter sounds), pre-numeracy skills (e.g., number counting and comparison), cognitive skills (e.g., pattern recognition, classification etc.) and other key skills like social skills etc.

- iii. **Teaching-Learning Material:** School shall focus on joyful and experiential learning through art, stories, poetry, rhymes, games, toys, songs, or activity-based in-Home Language/Mother tongue focusing on rich local traditions. (Integrating art, sport, ICT, storytelling, toys, games, puzzles, etc.)
- iv. **Child-friendly components:** Various child-friendly components such as poem corners, message boards, theme boards, various charts like class responsibility chart, midday meal chart, chart of stories etc., display boards (children’s writings, drawings, collections, variety of texts, pictures with captions, instructional material developed by teacher etc.) may be developed and displayed on walls at the eye level of children.
- v. **Classroom transactions:** They should be based on integrating real-life situations keeping in view inter/multi-disciplinary learning for the student to be able to attain competency in each area.
- vi. **Encouraging questions/curiosity:** School teachers shall ask open-ended questions which will encourage various answers and points of view. Student answers can lead to strong collaboration, exciting conversations, new ideas, as well as encourage leadership skills.
- vii. **High ability learners:** They can be identified and nurtured with opportunities to develop to their full potential by providing intensive and extensive learning beyond the common curriculum.

II. Preparatory Stage (Grades 3-5)

- i. **Linking learning to real-life problems:** School may launch drives to mobilize their students towards identifying real-life problems, preferably local issues and creating awareness in the community regarding the same. These activities can be taken up by students during summer breaks.
- ii. **Innovation Clubs:** Introduction of topic-centred and project-based clubs ('Innovation Club') in school with active involvement of parents and members from different vocations in society shall be encouraged. These Clubs could be online or offline, or both. These clubs can have annual day celebrations to showcase the projects undertaken by the member students in the interim period.
- iii. **Fun activities of Innovation Club:** These Clubs can intersperse learning with fun by conducting fests, exhibitions & seminars by young entrepreneurs, organizing Do-It-Yourself (DIY) activities. School shall adopt techniques like gamification, case studies, integration of content related to innovation, design thinking, critical thinking and entrepreneurship to capture students' interest while enhancing their capacity to handle complex situations
- iv. **Create awareness:** Students shall be encouraged to create posters, stickers or signs for display at home and school. Wall paintings and comics may also be created and posted with due permission from school authority to create awareness on Innovation Agenda.

- v. **National Innovation Day:** School shall organize in-house workshops on National Innovation Day. Science teachers or any other teacher can organize these workshops for students to emphasize the need of innovation, enabling development of creative mindset in students.

III. Middle Stage (Grades 6-8)

- i. **Minimum 2 hours/week for Tinkering:** All schools shall dedicate minimum 2 hours per week to compulsory tinkering activities. These classes will focus on providing hands-on learning of curriculum topics to students by engaging in experiential learning activities.
- ii. **Self-Organized Learning Environment:** School must promote SOLE for students to foster collaboration, innovation, and creativity which requires minimum instructor intervention.
- iii. **Meeting entrepreneurs:** To augment student learning with practical insights, professional and real-life entrepreneurs may be invited to conduct classes/lectures either in-person or through the use of technology enabled solutions.
- iv. **Hands-on experience:** Students shall be encouraged to take a course that gives hands-on experience of important vocational crafts, such as carpentry, electric work, metal work, gardening, pottery making, etc.

- v. **Bagless days:** Activities on 10 bagless days can be designed so that students have an opportunity to intern with local vocational experts such as carpenters, gardeners, potters, artists, etc.
- vi. **Field visits:** Students will be given periodic exposure to activities outside school through visits to places/monuments of historical, cultural and tourist importance, meeting local artists and craftsmen and visits higher educational institutions in their village/Tehsil/District/State.
- vii. **Include in student enrichment programmes:** Entrepreneurship and innovation courses can be introduced as student enrichment programs for students.
- viii. **Books, both offline and online:** School shall ensure the availability, accessibility, quality, and readership of books across geographies, languages, levels, and genres.
- ix. **Some additional activities:** These could be taken up by school as additional activities -
 - a. Socio-economic innovation challenge programs which mobilize students to solve various real-life problems, preferably local issues.
 - b. Competitions that facilitate participation in activities related to IIE.
 - c. Provide additional enriching course material.
 - d. Provide specific resources to identified gifted children.
 - e. Create Network of Mentors

- x. **Financial Literacy (FL) & Legal Literacy (LL):** These can be initiated by the school through a club/unit/team of qualified teachers and a student's committee selected after proper screening.

IV. Secondary Stage (Grades 9-12)

- i. **Minimum 2 hours/week for tinkering:** All schools shall dedicate minimum 2 hours per week to compulsory tinkering activities for students. These classes will focus on providing hands-on learning of curriculum topics to students by engaging in experiential learning activities.
- ii. **Include in student enrichment programmes:** Entrepreneurship and innovation courses can be introduced as student enrichment programs for students.
- iii. **Internships:** Programme for institutionalizing Summer-Winter internships/live-projects for students shall be conceived. Relevant tie-ups shall be done by school with local industries to secure internships/live-projects for all the students.
- iv. **Students-in-residence program:** A programme that allows students to undertake part-time internships in startups or engage in entrepreneurship related activities, may also be encouraged by school. Appropriate weightage can be given to such activities in subject assessments.
- v. **One-stop web portal:** In order to network all schools, students and teachers, a web portal will be developed by

Innovation Cell of MOE. This one-stop portal will help students to network, participate in hackathons. Groups and sub-groups at the district, state and national level will help form teams to tinker and foster creativity among students.

- vi. **School Innovation Council:** School must register itself under the 'School Innovation Council' (SIC) initiative of MIC. The SIC would focus on nurturing activities relating to fostering an innovation oriented culture in schools. All the activities that SIC undertakes should encourage the promotion of creativity and critical thinking among students.
- vii. **Innovation Coordinator in schools:** To lead the IIE agenda, the Principal/Head of school shall nominate a staff/ teacher as 'Innovation Coordinator' in the SIC. The 'Innovation Coordinator' will be the single point of contact who will address queries and provide support to students, teachers & other stakeholder on IIE agenda. Every SIC will also appoint a student leader, student marketing lead, student finance lead and student tech lead to assist in day to day functioning of the council.
- viii. Other details pertaining to School Innovation Council (SIC) are as under-

Functionaries

- a) School will establish School Innovation Council (SIC) as per guidelines of Ministry of Education's Innovation Cell with School Principal as Chairperson of the council, Innovation Coordinator under SIATP (School Innovation Ambassador Training Program), students,

entrepreneurs, CEO/Officers from Nearby Incubation/ Pre-incubation Centres, industry experts, etc.

Functions

- b) Encourage experiential learning through workshops, training programs, Science & other exhibitions at different level like Tehsil/District , entrepreneurship contests, hackathons, innovation bootcamps, school fest, poster design competitions, student-led marches/initiatives, organizing sessions with startup founders, conducting Do-It-Yourself (DIY) activities etc.
- c) Organize activities on the National Innovation Day (15th October).
- d) Develop collaborative partnerships with external stakeholders.
- e) Promote students to propose innovative ideas, and discuss, deliberate and hone/ accentuate those with support of peers, teachers and mentors.
- f) Organize students' visit to nearby business incubation centers, innovation labs of nearby schools or other higher education colleges/universities/Institution's Innovation Council (IIC), scientific labs (like ISRO, CSIR, DRDO, DIO etc.) and industrial R&D facilities to generate awareness.
- g) Present an annual award to recognize the best idea/ innovation/ startup and most innovative student.
- h) Engage mentors and facilitate following services for the selected innovation/ startup: technology development, ideation, creativity, design thinking, facilitating market research, assessing business potential, protecting Intellectual Property (IP) Rights, financial management,

cash-flow management, new venture planning, business development, product development, social entrepreneurship, product-costing, marketing, brand-development, human resource management as well as law and regulations impacting a business.

- i) Strengthen mentorship by teachers, faculty, corporates, local entrepreneurs & experts in specialized areas such as sports, languages, technology, etc. to identify the kind of innovation required in these areas.
- j) Maintain a “Wall of fame” in school premises featuring alumni who are now successful entrepreneurs.
- k) Maintain list of nearby incubators and Atal Tinkering Labs for easy access.
- l) Map and maintain list of Agriculture Science Centres in the neighbourhood of villages
- m) Create an entrepreneurship gallery (like an Art Gallery) to showcase creativity and innovation of students.
- n) Publish annual self-assessment of progress on attainment of IIE objectives on the school website.
- o) Adjudicate in matters related to School Entrepreneurs led startups including percentage equity stake to be taken, approving teacher’s engagement in a startup, IPR licensing etc.

Funds/Finances

- p) An ‘Innovation Fund’ will be created for SIC by allocating adequate fund from School’s annual budget for organizing related activities.
- q) SIC may also link the startups to seed-fund providers/ angel funds/ venture funds.

- r) SIC may also choose to raise funds for itself or for a student led startup from external funding sources. In case, SIC decides to raise such funds, it will have to register itself as a separately entity or Special Purpose Vehicle (SPV). (Refer section '*Enabling mechanism for Policy Implementation*' for further details)
- ix. **Credit points for SIC:** Based on activities undertaken for furthering the IIE Agenda, every SIC will be awarded credit points which shall drive the performance rating of the SIC. A SIC with good performance rating will be more likely to perform better in market outreach activities.
- x. **Mentoring opportunities:** School shall provide mentoring opportunities to students to gain breadth of understanding across contemporary disciplines, while developing deeper expertise in few disciplines. School shall run online courses in the area of science, mathematics, cryptography, astrophysics, environmental sciences, etc. and also encourage students to pursue course on 'Entrepreneurship' as an elective in Grade 11-12.
- xi. **Financial Literacy (FL) & Legal Literacy (LL):** These can be initiated by the SIC through a club/unit/team of qualified teachers and a student's committee selected after proper screening.

Enabling mechanism for Policy Implementation

Nominating dedicated staff in school

- Principal will nominate a staff/ teacher from school to lead the Ideation, Innovation and Entrepreneurship (IIE) agenda.
- Principal will nominate 5 or more teachers to undergo training in following 5 areas under School Innovation Ambassadors Training Program (SIATP) of Ministry of Education's Innovation Cell:
 - Module 1: Design Thinking & Innovation
 - Module 2: Intellectual Property Rights (IPR)
 - Module 3: Idea generation & Idea hand-holding
 - Module 4: Finance / Sales / HR
 - Module 5: Entrepreneurship & Product/ Prototype developmentSubmission of nominations will be done by Principal at <https://sia.mic.gov.in/#spoc-login>
- The school will set up a committee or assign an already existing committee with a role of identifying best innovations and other related activities.

Mobilizing funds

- An 'Innovation Fund' will be created by School by allocating adequate fund from its annual budget for organizing the IIE related activities.

- School may also choose to raise funds from external funding sources like donations from corporate sectors under Corporate Social Responsibility (CSR) etc. In case, School decides to raise such funds, it will have to register itself as a separately entity or Special Purpose Vehicle (SPV). A separate entity may be registered under Section-8 of Company Act 2013 or 'Society' registered under Society Registration Act with independent governance structure.

Operationalizing Innovation Club/School Innovation Council

- School Innovation Council (SIC), wherever set-up, will be established as per guidelines of Ministry of Education's Innovation Cell. 'School Innovation Council' will follow the calender of activities recommended by Ministry of Education's Innovation Cell and CBSE.
- School will establish Innovation Club for students in Preparatory and Middle Stages in line with guidelines issued in this policy.
- Performance of SICs established by schools will be assessed with Star Rating.

Promotion of Innovation Agenda

- At the beginning of every academic year, school will organize an induction program for students where I&E agenda of school will be highlighted.
- School will announce annual awards for teachers and students- the best idea/ innovation/ startup and most innovative student, Most Innovative Teacher.

- School will design suitable incentive structure for teachers for driving IIE Agenda.
- School will submit bi-annual report of SIC at SIC's online platform which will be used to assess performance of SICs by Ministry of Education's Innovation Cell.

Important Links:

Operational Atal Tinkering Labs in India

<https://www.aim.gov.in/pdf/OperationalATLsInIndia.pdf>

Atal Incubation Centres in India

<https://aim.gov.in/atal-incubation-centres.php>

School Innovation Ambassadors Training Program

Registration Link for School Principal or Single Point of Contact-

<https://sia.mic.gov.in/#spoc-login>

Registration Link for Teachers

<https://sia.mic.gov.in/#teacher-login>

Higher education institutes where Institution's Innovation Council (IICs) have been established by Ministry of Education

<https://iic.mic.gov.in/institute-list>

National IPR Policy

<https://dpiit.gov.in/policies-rules-and-acts/policies/national-ipr-policy>

Some examples of the percentage shares to be taken by the school's SPV/ incubator:

1. No teacher / school staff holds shares; no space at incubator; no IP from school; no seed funds; only mentorship and connect: 2% shares by Incubator.
2. No teacher / school staff holds shares; no IP from school; no seed funds; only space at incubator, mentorship and connect: 3% to 4% shares by Incubator.
3. No teacher / school staff holds shares; IP from school, but paid separately as license fees or royalty; no seed funds; only space at incubator, mentorship and connect: 3% to 4% shares by Incubator.
4. No teacher / school staff holds shares; IP from school, but paid separately as license fees or royalty; seed funds of ₹5 lakhs to 10 lakhs; plus space at incubator, mentorship and connect: 5% to 6% shares by Incubator.
5. No teacher / school staff holds shares; IP from school, not paid separately as license fees or royalty; seed funds of ₹5 lakhs to 10 lakhs; plus space at incubator, mentorship and connect: 6% to 8% shares by Incubator.
6. IP from school if any paid separately as license fees or royalty; seed funds of ₹5 lakhs to 10 lakhs; plus space at incubator, mentorship and connect + total teacher shares below 5%: 6% shares by Incubator.
7. IP from school if any paid separately as license fees or royalty; seed funds of ₹5 lakhs to 10 lakhs; plus space at incubator, mentorship and connect + total teacher shares between 5% to 10%: 7% shares by Incubator.
8. IP from school if any paid separately as license fees or royalty; seed funds of ₹5 lakhs to 10 lakhs; plus space at incubator, mentorship

and connect + total teacher shares between 10% to 15%: 7.5% shares by Incubator.

9. IP from school if any paid separately as license fees or royalty; seed funds of ₹5 lakhs to 10 lakhs; plus space at incubator, mentorship and connect + total teacher shares between 15% to 20%: 8% shares by Incubator.
10. IP from school if any paid separately as license fees or royalty; seed funds of ₹5 lakhs to 10 lakhs; plus space at incubator, mentorship and connect + total teacher shares between 20% to 30%: 8.5% shares by Incubator.
11. IP from school if any paid separately as license fees or royalty; seed funds of ₹5 lakhs to 10 lakhs; plus space at incubator, mentorship and connect + total teacher shares above 30%: 9% shares by Incubator.
12. More permutations possible; generally keeping incubator's share below 6%.

Glossary

- CSR - Corporate Social Responsibility (CSR) can be simply defined as the grants and funding process under which various Non-profit Organizations (NGOs) can get financial and other assistance from the corporate sector.
- Critical thinking - Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.
- Co-creation- Co-creation is the act of creating together. When applied in business, it can be used as an economic strategy to develop new business models, products and services with customers, clients, trading partner or other parts of the same enterprise or venture.
- Cross-disciplinary - Cross-disciplinary practices refer to teaching, learning, and scholarship activities that cut across disciplinary boundaries.
- Design Thinking - Design Thinking is an iterative process in which we seek to understand the user, challenge assumptions, and redefine problems in an attempt to identify alternative strategies and solutions that might not be instantly apparent with our initial level of understanding.
- Equity share- An equity share, commonly referred to as ordinary share also, represents the form of fractional or

part ownership in which a shareholder, as a fractional owner, undertakes the maximum entrepreneurial risk associated with a business venture. The holders of such shares are members of the company and have voting rights.

- Entrepreneurial culture - A culture that enhance the exhibition of the attributes, values, beliefs and behaviors that are related to entrepreneurs.
- Entrepreneurship education - Entrepreneurship education seeks to provide students with the knowledge, skills and motivation to encourage entrepreneurial success in a variety of settings.
- Experiential learning - Experiential learning is the process of learning through experience, and is more narrowly defined as "learning through reflection on doing".
- Financial Literacy (FL)- a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial well-being.
- Hackathon - A hackathon is a design sprint-like event; often, in which computer programmers and others involved in software development, including graphic designers, interface designers, project managers, domain experts, and others collaborate intensively on software projects.
- Ideation - Ideation is the creative process of generating, developing, and communicating new ideas, where an idea is understood as a basic element of thought that can

be either visual, concrete, or abstract. Ideation comprises all stages of a thought cycle, from innovation, to development, to actualization.

- Idea Competitions - Idea Competitions are becoming a popular mechanism chosen by firms to perform Open Innovation. They are a way to engage with external sources of knowledge such as individual entrepreneurs and small firms who are asked to submit ideas and compete for a prize.
- Innovation ecosystem - An “innovation ecosystem” is the term used to describe the various players, stakeholders, and community members that are critical for innovation. ... Each plays a significant role in creating value in the larger ecosystem by transforming new ideas into reality through access and financial investment.
- Innovation - Innovation is the practical implementation of ideas that result in the introduction of new goods or services or improvement in offering goods or services.
- Intellectual Property Rights Licensing- A licensing is a partnership between an intellectual property rights owner (licensor) and another who is authorized to use such rights (licensee) in exchange for an agreed payment (fee or royalty).
- Intellectual Property Rights - Intellectual Property Rights (IPRs) are legal rights that protect creations and/or inventions resulting from intellectual activity in the industrial, scientific, literary or artistic fields. The most common IPRs include patents, copyrights, marks and trade secrets.

- Incubation - Incubation is a unique and highly flexible combination of business development processes, infrastructure and people, designed to nurture and grow new and small businesses by supporting them through the early stages of development.
- Legal literacy (LL)- knowledge of the primary level in law. By 'knowing the law' people are more able to uphold the rule of law and are aware of their obligations under the law and can also challenge laws that threaten their fundamental rights and freedoms.
- Makerspace - A makerspace is a place where you can make things. It's a place for hands-on learning with all the tools for creativity.
- Performance Evaluation - It is defined as a formal and productive procedure to measure an employee's work and results based on their job responsibilities.
- Pedagogy and Experiential learning- It refers to specific methods and teaching practices (as an academic subject or theoretical concept) which would be applied for students working on startups. The experiential learning method will be used for teaching 'startup related concepts and contents' to introduce a positive influence on the thought processes of students. Business cases and teaching cases will be used to discuss practical business situations that can help students to arrive at a decision while facing business dilemma(s). Field based interactions with prospective customers; support institutions will also form a part of the pedagogy which will orient the students as they acquire field knowledge.

- Pre-incubation - Pre-incubation refers to the phase aimed at validating projects ideas, company planning and creation, and the possibility of developing possible business by analyzing technical and economic viability and entrepreneur profile. Pre-incubation aims to support ambitious and innovative entrepreneurs by enabling them to transform their ideas into a minimum viable product.
- Prototype - A prototype is an early sample, model, or release of a product built to test a concept or process.
- Rapid prototyping - Rapid Prototyping (RP) enables the quick fabrication of physical models using three-dimensional computer aided design (CAD) data.
- Resource mobilization - Resource mobilization is the process of getting resources from the resource provider, using different mechanisms, to implement an organization's predetermined goals.
- School Innovation Ambassador Training - School Innovation Ambassador Training program is a program launched by Ministry of Education's Innovation Cell, and AICTE in collaboration with CBSE and EMRS of Ministry of Tribal Affairs. The School Innovation Ambassador Training Program will train 50,000 school teachers from CBSE and Eklavya Model Residential Schools. The program aims at training school teachers in innovation, entrepreneurship, IPR, design thinking, product development, idea generation, among others.
- Science park - A science park, also known as a research park, technology park or innovation Centre, is a purpose-

built cluster of office spaces, labs, workrooms and meeting areas designed to support research and development in science and technology

- Special purpose vehicle (SPV)- it is a subsidiary created by a parent company to isolate financial risk. Its legal status as a separate company makes its obligations secure even if the parent company goes bankrupt.
- Section 8 company - The Companies Act defines a Section 8 company as one whose objectives is to promote fields of arts, commerce, science, research, education, sports, charity, social welfare, religion, environment protection, or other similar objectives. These companies also apply their profits towards the furtherance of their cause and do not pay any dividend to their members.